John Brooke
His Book
1789

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John Brooke

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THE

EDINBURGH

NEW DISPENSATORY.

[Price Eight Shillings, Bound.]

This BOOK, although apparently only a NEW EDITION, is in fact a NEW WORK; and as such

Entered in Stationers Hall.

THE EDINBURGH NEW DISPENSATORY:

CONTAINING

I.
The ELEMENTS of PHARMACEUTICAL CHEMISTRY.

II.
The MATERIA MEDICA; or, An Account of the Natural History, Qualities, Operations, and Uses, of the different Substances employed in Medicine.

III.
The PHARMACEUTICAL PREPARATIONS and MEDICINAL COMPOSITIONS of the New Editions of the LONDON (1788) and EDINBURGH (1783) Pharmacopœias;

WITH

EXPLANATORY, CRITICAL, AND PRACTICAL OBSERVATIONS ON EACH:

Together with the Addition of those FORMULÆ,

FROM THE BEST FOREIGN PHARMACOPOEIAS,

Which are held in highest Esteem in other Parts of Europe.

THE WHOLE INTERSPERSED WITH

PRACTICAL CAUTIONS AND OBSERVATIONS,

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Latest DISCOVERIES in *Natural History*, *Chemistry*, and *Medicine*;

With New TABLES of

ELECTIVE ATTRACTIONS, of ANTIMONY, of MERCURY, &c.

AND

Six COPPERPLATES of the most convenient FURNACES, and Principal PHARMACEUTICAL INSTRUMENTS.

Being an IMPROVEMENT upon the

NEW DISPENSATORY OF DR LEWIS.

THE SECOND EDITION;

With many ALTERATIONS, CORRECTIONS, and ADDITIONS.

EDINBURGH:

PRINTED FOR CHARLES ELLIOT;

AND FOR C. ELLIOT AND T. KAY, at Dr Cullen's Head, Opposite Somerset-Place, Strand, LONDON.

M,DCC,LXXXIX.

TO

SIR GEORGE BAKER, BART.

PHYSICIAN TO THEIR MAJESTIES,

AND

PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

SIR,

IF the prefent edition of this work have any fuperiority over the laft, that fuperiority principally arifes from the many important improvements which have lately been made in the LONDON PHARMACOPOEIA; and for thefe improvements the public are not a little indebted to you. Permit me therefore to take this method of acknowledging, as an individual, the obligation which, in my opinion, you have conferred on every medical practitioner: And believe me to be, with fincere efteem,

Your moft obedient fervant,

EDINBURGH,
Nov. 1. 1788.

ANDREW DUNCAN.

PREFACE.

SUCH was the ſuperiority of Dr Lewis's Diſpenſatory, at the time of its publication, over all others then extant, that it ſoon ſuperſeded every work of a ſimilar nature in Britain, and obtained very high reputation abroad. During the life of the author, the improvements which that work received from his hands, in ſucceſſive editions, correſponded to the diſcoveries that were then made in pharmaceutical chemiſtry; but during the period which has elapſed ſince the world were deprived of the labours of that ingenious, induſtrious, and learned man, chemiſtry, in all its branches, has received much greater improvements than before. It was therefore concluded, that an attempt to collect and apply the lateſt and moſt important diſcoveries to his Diſpenſatory, would not be unacceptable to the public.

This attempt was carried into execution about two years ago, by the publication of a work, under the title of EDINBURGH NEW DISPENSATORY. That work has met with an unequivocal proof of public approbation: for in little more than a year, a very large impreſſion was completely ſold off. Upon this event it would again have been immediately put to the preſs, had it not been from the expectation of a new edition of the London Pharmacopœia; which was at that time in ſuch forwardneſs, that a ſpecimen of it had been diſtributed with the view of obtaining the opinion of other intelligent pharmacians reſpecting the intended alterations. That expectation has now been fulfilled. About the beginning of the preſent year, the London College, who had made no alteration in their Pharmacopœia for near half a century before, republiſhed that work, with many alterations and corrections: And as far as the preſent edition of this publication has any ſuperiority over the former, that ſuperiority principally ariſes from the many important improvements which the new London Pharmacopœia contains.

This edition of the Edinburgh New Diſpenſatory includes a complete tranſlation of the preſent London and Edinburgh Pharmacopœias, which are by Royal authority the ſtandards of pharmaceutical practice in Britain: and it contains alſo many additions from the beſt foreign Pharmacopœias lately publiſhed on the continent of Europe, particularly from the Pharmacopœia Suecica, Roſſica, Danica, Brunſvicenſis and Genevenſis. But there is not a more material difference between the preſent and the former impreſſion of this work, in the additions which have taken place, than in the diminutions: And it is preſumed, that no inconſiderable advantage

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arifes from expunging from the prefent edition many articles which retained a place in the former, although obfolete, abfurd, and not intitled to more notice than numbers of the prefcriptions of Galen and Paracelfus, long fince banifhed from every pharmacopœia. By omitting thefe, the time of the reader will not only be faved, but the danger of error avoided.

In the prefent edition, very confiderable alterations have alfo been made in the arrangement of this work. In place of four, it is now divided into three parts: The firft of thefe, The Elements of Pharmacy, was in the laft edition adapted to the principles of modern chemiftry, and illuftrated by engravings of the moft convenient furnaces and principal pharmaceutical inftruments; here, therefore, there was but little room for alteration; and it is accordingly prefented to the public very nearly in the fame ftate as before.

In the fecond part, The Hiftory of the Materia Medica, we have retained the alphabetical mode of arrangement, which has in many particulars a decided fuperiority over every other which has yet been propofed, and which is now adopted in almoft every modern Pharmacopœia. But to conjoin with this the advantages of other arrangements, a fhort view is annexed of fome of the leaft exceptionable of thefe, both of ancient and modern date. The number of articles of which a hiftory is given in this part of the work is now confiderably abridged: for all thofe are now rejected which do not ftill retain the fanction of fome modern Pharmacopœia of credit. But we have ventured to add to the lift fome articles which, although not yet received into any of the modern Pharmacopœias, have been recommended to the public on fuch authority as, at leaft, to point them out as the fubject of future trials. The account which is given of the operation and ufe of each article, we have endeavoured to render correfpondent to the pathological opinions at prefent moft generally received among the moderns, and to the concurring teftimony of faithful and accurate obfervers. We are indeed fully fenfible, that in many particulars, with regard to the real effects of medicines, and ftill more with regard to their mode of operation, even the beft informed moderns are ftill in a ftate of ignorance and uncertainty. But we have at leaft endeavoured, as far as we were able, both to fhake off the trammels of theory and the authority of great names; and we flatter ourfelves with the hope that our endeavours have not been altogether fruitlefs: We fhall however be always ready to avail ourfelves of the light which may hereafter be thrown by future experience and future obfervation, on any particular falling under this brauch of our fubject.

Under the third part, we have included what was formerly diftributed into two, Pharmaceutical Preparations and Medicinal Compofitions. In this we have followed both the London and Edinburgh Pharmacopœias; and, indeed, in many cafes, it is total-

ly impoſſible to draw an accurate line between preparations and compoſitions: accordingly, moſt of thoſe articles which were formerly referred to one or other of theſe heads, had an equal title to belong to both. In the arrangement of the different claſſes of preparations and compoſitions, we have followed the order of the London pharmacopœia; which, while it differs very little from that of the Edinburgh College, is perhaps, in ſome particulars, preferable: But under each chapter, comprehending ſalts, ſpirits, powders, pills, or the like, we have introduced the moſt active and eſteemed formulæ from foreign Pharmacopœias which have not a place in thoſe of Britain. And we are inclined to think, that from theſe additions, medical practice in this iſland may derive ſome advantages.

By the changes which have now been pointed out, we truſt that the preſent work has been not a little improved. We are, however, very far from conſidering it as a complete ſyſtem of practical and ſcientific pharmacy. For accompliſhing ſuch a work, much yet remains to be diſcovered, much to be corrected; and the exertions of genius and induſtry may give future Diſpenſatories a better claim to the approbation of the learned and diſcerning reader: Yet we hope, that our own labours beſtowed on the preſent work will neither be altogether unacceptable nor uſeleſs to the public.

EDINBURGH,
Nov. 1. 1788.

Explan

Explanation of the Contractions used for the Titles of different Pharmacopœias quoted in this Work.

Lond.—Pharmacopœia collegii regalis medicorum Londinensis, 4to, Londini 1788.

Edin.—Pharmacopœia collegii regii medicorum Edinburgensis, 8vo, Edinburgi 1783.

Gen.—Pharmacopœia Genevensis, ad usum nosocomiorum, 8vo, Genevæ 1780.

Suec.—Pharmacopœa Suecica, editio altera emendata, 8vo, Holmiæ 1779.

Ross.—Pharmacopœa Rossica, 4to, Petropoli 1778.

Brun.—Dispensatorium pharmaceuticum Brunsvicense, 4to, Brunsvici 1777.

Dan.—Pharmacopœia Danica, regia auctoritate, a collegio medico Hauniensi conscripta, 4to, Hauniæ 1772.

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INTRO-

INTRODUCTION.

PHARMACY is the art of preparing, preſerving, and compounding ſubſtances for the purpoſes of medicine. This art has very commonly been divided into two branches, *Galenical* and *Chemical* pharmacy. But for this diviſion there is no juſt foundation in nature: And accordingly, proceſſes in one pharmacopœia referred to the head of Chemical, are in another referred to the head of Galenical. There can be no doubt, that even the moſt ſimple pharmaceutical preparations are to a certain extent chemical. Hence this diviſion, founded on prejudice, and ſupported merely by a veneration for antiquity, is now baniſhed from almoſt every modern pharmacopœia.

Pharmacy has alſo been divided into *Theoretical* and *Practical*; the firſt, conſiſting not merely of ſpeculative opinions, but of a knowledge of facts and principles, tending to explain the *rationale* of proceſſes; the latter, comprehending the mere manual labour employed in proceſſes.

The former of theſe may therefore be juſtly ſtyled Scientific Pharmacy. And there can be no doubt that an acquaintance with it is eſſentially neceſſary to the due exerciſe of the healing art: For without it the practitioner muſt often err in the forms of preparation and compoſitions which he employs; and he muſt often be deceived in the effects reſulting from compoſitions, when he infers their properties from the known powers of the ingredients in their ſeparate ſtate. It would therefore be highly improper to detach the ſcientific and practical parts of pharmacy from each other. And accordingly, in the firſt part of this work a general view is given of the elements of pharmacy both practical and ſcientific, that the reader may be better prepared for the conſideration of the particu-

lar

lar ſubjects and proceſſes which fall to be treated of under the ſecond and third parts. As in ſome degree ſubſervient to the ſame intention, we have here alſo ſubjoined an abſtract from the Syllabus of Dr Webſter's Lectures on Chemiſtry and Materia Medica. It will at leaſt preſent the reader with an uſeful method of arranging the ſubjects; and may at the ſame time be of ſome ſervice in ſupplying the want of ſynonymes in this work.

DIRECTIONS for placing the PLATES.

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N. B. None of the Plates to be cut into ſingle leaves.

ABSTRACT

ABSTRACT *from Dr* WEBSTER'*s* SYLLABUS *of Lectures on Chemiſtry and Materia Medica.*

IN Chemiſtry we conſider the diſpoſitions of the *different* kinds of matter to unite, with their effects on union, as in dietetics and materia medica we do their effects on the human body.

That power by which *different* particles unite is called *chemical attraction*, or *uneſcence*.

MATTER has been commonly arranged into ſix kinds. 1. *Salts;* ſyn ſaline bodies. 2. *Earths;* ſyn. earthy bodies, ſtones. 3. *Inflammables;* ſyn. combuſtibles. 4 *Metals;* ſyn metallic bodies. 5. *Water;* ſyn. watery or aqueous bodies. 6. *Airs;* ſyn. gaſes, gaſeous or aërial bodies, permanent vapours. The kinds of matter not comprehenſible in the above arrangement are, 1. Heat; ſyn. abſolute or elementary heat or fire, principle or matter of heat. 2. Light; ſyn. matter of light, luminous principle. 3. Electrical fluid. 4. Magnetical fluid. 5. Peculiar vegetable and animal matters: as gum; colouring-matter; ſtarch, or amylaceous matter; vegeto-animal gluten, coagulable lymph, or fibre of the blood.

1. SALTS are ſapid, ſoluble in water, generally uninflammable. They are ſimple and compound.

The ſimple are ſo called, as being ingredients in the compound, and are *acids* and *alkalies*.

The compound ſalts are ſaline and middle, *i. e.* the earthy and metallic: as the acidated alkalies, earths, and metals.

The ſaline, ſyn. neutral, acido-alkaline, ſales ſalſi, conſiſt of two or more ſimple ſalts. The earthy, ſyn. ſaline earths, conſiſt of a ſimple ſalt and an earth. The metallic conſiſt of a ſimple or ſaline ſalt and a metal. The ſalts conſolidated with water in a regular form are ſaid to be cryſtalliſed.

A ſalt is ſaid to be, 1. Deliqueſcent when it attracts water from the air; ſyn. aqueſcent. 2. Spontaneouſly calcinable, when the water of its cryſtals is attracted by the air; ſyn. effloreſcent, deaqueſcent. 3. Subject to the watery fuſion, when it is ſoluble by heat in its cryſtalline water. 4. Decrepitating, when it crackles in the fire, owing to its ſmall quantity of water becoming ſuddenly elaſtic vapour; ſyn. ſubaquated. 5. Deflagrating, when, from the pure air which it contains, it can ſupport and accelerate combuſtion; ſyn. detonating, deaëreſcent; as ſalts containing acid of nitre.

2. EARTHS, except lime, are inſipid; difficultly ſoluble in water, difficultly fuſible, becoming glaſs, uninflammable, unmetalliſable, and not heavier than five times their bulk of water.

3. INFLAMMABLES, when ſet on fire, burn till reſolved into ſalts, earths, water, or ſome mixture of theſe.

4. METALS are opake, bright bodies, not lighter than ſix times their bulk of water.

The inflammables and metals are ſuppoſed to owe their diſtinguiſhing qualities to their containing a ſubtil fluid called *phlogiſton*, ſyn. principle of inflammability or metalliſation, ſulphureous, oleous, ſpirituous, or in-

 flammable

flammable principle, fixt fire, pure inflammable air. The inflammables and metals are called *phlogiſtic bodies;* or, as their uninflammable part as well as their phlogiſton have a diſpoſition to unite with air, *aëreſcent bodies.* The metals are ſuppoſed to conſiſt of peculiar earths or acids with phlogiſton, or peculiar ſubſtances free from pure air.

5. WATER is a colourleſs, inſipid body; which has a diſpoſition to unite with ſalts and ſome airs, and thus forms mineral waters.

6. AIRS are inviſible fluids, of indefinite elaſticity, retaining their aërial form in any degree of cold yet known. Except two, called *pure* and *impure*, both ingredients of the atmoſphere, they all ſeem to be acid, alkaline, or inflammable. The pure air ſupports life much longer, and promotes inflammation much more than common or atmoſpheric air: it is alſo called empyreal, aphlogiſtic, dephlogiſticated, vital, fire air, eminently reſpirable, principal of acidity; and is ſuppoſed to be dephlogiſticated water. The impure air, like all the reſt, except pure and atmoſpheric air, deſtroys life and flame; and is alſo called noxious, foul, corrupted, phlogiſticated air, or atmoſpheric mephitis.

The operations by which permanent effects are produced on the different kinds of matter, are,

I. Compoſition: ſyn. Mixture, combination, union, ſolution. As chemical attraction does not take place at any ſenſible diſtance, attention is neceſſary to diminiſh coheſion in ſolids, to approximate the particles of the ingredients, and to multiply their points of contact.

Bodies minutely divided, as in the ſtate of vapour or air, refuſing to unite, have no attraction; liquids refuſing, have little; but a liquid uniting with a ſolid or air, ſhows a great attraction.

The general effects of chemical union are, 1. Condenſation, conſequently increaſe of ſpecific gravity. 2. Heat, except it be abſorbed by the production of liquidity or vapour. 3. Change of form, ſolids becoming fluids, and fluids becoming ſolids. 4. Extreme diviſion of parts. 5. Change of colour. 6. Diminiſhed attraction for other bodies: hence the more ſimple a body is, the ſtronger and more numerous are its attractions. 7. Alteration with regard to the effects of heat and other kinds of matter. 8. Different appearance on being mixed with other bodies. 9. Alteration of effects on the human body.

II. Decompoſition: ſyn. Separation, as open evaporation; cloſe evaporation; that is, diſtillation or ſublimation; precipitation.

Beſides the heads of Compoſition and Decompoſition, another ſeems neceſſary; as in the operations of the calcination and reduction of metals and vitrification, there ſeems to be ſomething parted with and ſomething received. This head may be called *Reciprocation.*

As chemical attraction ſeems to diſpoſe matter to unite with one kind rather than with another; by which a body added attracts an ingredient from a compound, thereby producing a new compound; and a compound changes ingredients with another compound, thereby producing two new compounds; the former is called a *ſingle* elective attraction, and the latter a *double* one, as exhibited in the Tables. The ſuppoſed anomalies in the order of attractions were chiefly owing to overlooking the influence of heat, phlogiſton, air, or water, as ingredients, the union of three of the ingredients, the ſolubility of ſome of them, or the exceſs of acid in ſome of the compound ſalts.

The

The moſt ſimple kinds of matter ſeem to be, 1. Heat. 2. Light. 3. Phlogiſton. 4. Electrical fluid. 5. Magnetical fluid. 6. Pure air *.

Thoſe conſidered as next in ſimplicity are, the acids, the alkalies, the earths, and water.

The different kinds of matter are rarely found pure in nature. They differ from each other in their origin, ſenſible qualities, chemical attractions, and the compounds which they form.

ACIDS.

Acids have a ſour taſte; redden certain vegetable blues; unite with alkalies, earths, inflammables, or metals; by which union the ingredients may loſe their diſtinguiſhing qualities, the compound being then ſaid to be neutral. The acids ſeem to contain pure air. They owe their liquid ſtate to water, and their colour and volatility probably to phlogiſton; for both which they, in general, have a powerful attraction. The mineral acids burn animal and vegetable bodies like fire. Diluted with 40 or 50 times their weight of water, they are as active as the other acids. The vegetable and animal acids poſſeſs the general properties of acids in a much inferior degree; they contain oily and ſlimy matter, and are totally deſtroyed by a red heat. Acids, as articles of the materia medica, diſſolve, at leaſt out of the body, ſome animal concretions, neutraliſe the taſte of bitters, correct vegetable poiſons; ſeem to be locally ſtimulant and aſtringent; and are employed to obviate weakneſs, relaxation, ſpaſm, acidity, putreſcence, heat, thirſt, ſweat, hemorrhagy, chronic eruptions, increaſed diſcharges, the ill condition of certain ulcers. They occaſionally increaſe the ſecretions, according to the doſe and temperature of the patient. The vegetable acids are applied in external inflammation; and acid juices are uſed internally in active inflammatory and hemorrhagic ſtates. Acid vapours are employed as antidotes to contagion. Acids render the ſtomach leſs capable of being acted on by other matters, as ſpirits, &c. They are ſometimes obſerved to excite cough and ſpaſms. Their adminiſtration requires only dilution with water, which may alſo be ſweetened.

1. *Acid of vitriol:* ſyn. Vitriolic acid, oil of vitriol, acid of ſulphur, ſulphureous acid, acid of alum, aluminous acid; aërial, ethereal, primogenial, univerſal or catholic acid; acidum calcanthi, acidum vagum foſſile. In its concrete ſtate, it is called glacial or icy oil of vitriol; in its ordinary ſtrong ſtate, that is, when about double the weight of water, the epithet *ſtrong* or *concentrated* is often added; and in a more diluted ſtate, that is, with about ſeven waters, it is called weak vitriolic acid, ſpirit of vitriol, or ſpirit of ſulphur by the bell. Its vaporific point when pure, is about 550° of heat. United with a certain proportion of phlogiſton, it may exiſt in the form of vitriolic acid air; and this, combined with water, forms the volatile vitriolic or ſulphureous acid. Saturated with phlogiſton, it forms ſulphur. It has a conſiderable attraction for phlogiſton.

* Some, however, conſider heat and light as different compounds of pure air and phlogiſton; while others, denying the exiſtence of phlogiſton, conſider pure air as conſiſting of heat and a certain matter which phlogiſtic bodies are diſpoſed to abſorb. Others, again, conſider the five firſt as mere modifications of one another.

2. *Acid of nitre;* syn. Nitrous acid, smoking acid or spirit of nitre, smoking nitrous acid, Glauber's spirit of nitre. Diluted, it is called single aquafortis. It exists in form of nitrous and nitrous acid air. It has a remarkable attraction for phlogiston.
3. *Acid of salt;* syn. Acid of muria, muriatic or marine acid, spirit of salt, acid or spirit of sea-salt, Glauber's spirit of sea-salt, spirit of sal gem, acid spirit of sal ammoniac. It exists in form of marine acid air. It seems to contain so much phlogiston that it has little attraction for it. It is dephlogisticated by black calx of manganese, calx of arsenic, acid of nitre, &c. These are the three chief mineral acids.
4. *Acid of tartar;* syn. Tartareous acid, spirit of tartar.
5. *Acid of vinegar;* syn. Spirit of vinegar or of verdegris, radical vinegar, acetous acid. It exists in form of acetous air.

   Vinegar is a product of fermentation; a process by which dead organic matter, exposed to air, moisture, and a heat at least above 32°, is decomposed; and in the case of sweet matter produces successively alcohol, vinegar, and volatile alkali, with a respective ferment in each stage. These stages are called the vinous or spirituous, the acetous, and the putrefactive. The ferment in the first stage seems to be acid of chalk.
6. *Acid of Borax;* syn. Sedative or narcotic salt of Homberg, Boracic acid.
7. *Acid of chalk;* syn. Cretaceous, cretous, calcareous, chalky, aërial, or mephitic acid, air or gas; fixt, fixable air or gas, gas sylvestre, deadly or choak damp. Water combined with it is called mephitic or acidulous water, or spirit of chalk.

   The acid and alkaline airs are readily absorbable by water, and are considered as the vapours of the acids volatilised by phlogiston.
8. The other acids are, 1. *Aqua regia. 2. Acid of amber. 3. Acid of benzoin. 4. *Acid of sugar. 5. *Acid of milk. 6. *Acid of sugar of milk. 7. Acid of lemons. 8. Acid of tamarinds. 9. Acid of sorrel. 10. *Acid of fat. 11. *Acid of ants. 12. *Acid of arsenic. 13. *Acid of fluor or spar. 14. *Acid of phosphorus. 15. *Acidum perlatum. 16. *Acid of Prussian blue. 17. Acid of tungstein.

Perhaps the acid principle is the same in all acids, and they differ from one another only in their proportions of pure air and phlogiston.

ALKALIES.

Alkalies, whether the *saline* or *earthy*, have many properties in common. They are found united with the acid of chalk, they have much the same appearance, they green vegetable blues, unite with acids, are fluxes to the flinty earths, and render oil or sulphur miscible with water. The earthy are much less soluble in water; and, except lime, have little or no taste. The earthy are deprived of their acid by heat, the saline require another attracting substance, as lime. The saline ones and lime, when pure, are corrosive, aquescent, and act on the metals in some mea-

These marked thus * are not used in medicine.

measure like the acids. They diſſolve animal concretions and mucus, are ſaid to correct animal poiſons. and out of the body they obviate putreſcence. The earthy alkalies, if mild, whether with or without their acid, and common ſalt when in a ſmall proportion, ſeem the only particular ſubſtances that promote putrefaction. When diluted, they are uſed externally in chronic eruptions, to ſtimulate the inactive veſſels in foul ulcers, and in the form of injection to deſtroy aſcarides. Some uſe them internally in ſcrophula. The ſaline ones increaſe the diſcharges by the ſkin, kidneys, and inteſtines, according to the doſe and patient's temperature: the volatile alkali is uſed as a rubefacient; and its odour to excite the living principle; and likewiſe internally to ſtimulate and to obviate ſpaſm and torpor. Lime-water is uſed as a tonic and aſtringent, as in dyſpepſia, intermittents, and increaſed diſcharges. The other alkine earths ſeem merely to abſorb moiſture and acid; and magneſia meeting with acid in the ſtomach purges. The uſe of the alkalies cannot be long continued without injuring the ſtomach and conſtitution. The ſaline ones may be given diluted, or with ſome conſerve in form of bolus; and the mild earthy ones ſuſpended in water by gum.

SALINE ALKALIES; ſyn. Alkaline or antacid ſalts.

1. *Vegetable alkali:* ſyn. Pure kali, cauſtic vegetable alkali, or alkali of tartar; cauſtic, infernal, or ſeptic ſtone, potential cautery, common cauſtic. Diſſolved in water, it is called cauſtic ley, or water of pure kali.

Subcretiſed vegetable alkali: ſyn. Kali, common or mild vegetable alkali; fixt nitre; ſalt of tartar; the impure, as that of wormwood, of plants, of woods, &c. pot-aſh, pearl-aſh, caſhub, morcoft aſhes, black or white flux. Diſſolved in water, it is called oil of tartar, per deliquium, liquor of fixt alkali or of fixt nitre, ley of tartar, water of kali. It contains 20 parts of pure acid, 48 of pure alkali, and 32 of water in the hundred, and is ſoluble in 4 waters at 60° of Fahrenheit's ſcale. Its cryſtals are permanent.

2. *Mineral alkali;* ſyn. Pure or cauſtic, mineral, marine, or foſſile alkali, natron, ſoda, alkali of ſalt. Diſſolved in water, it is called ſoap-ley.

Subcretiſed mineral alkali: ſyn. common or mild mineral or foſſile alkali, ſoda, or ſalt of ſoda, barilla, kelp, mural natron, aphronitrum, the nitre of the ancients, Egyptian nitre. It contains 16 of acid, 20 of alkali, and 64 of water; is ſoluble in two waters. Its cryſtals are deaqueſcent.

3. *Volatile alkali:* ſyn. Ammonia, pure or cauſtic volatile alkali, alkali of bones or oſcali. Combined with water, it is called cauſtic volatile ſpirit, ſpirit of ſal ammoniac prepared by quicklime, water of pure ammonia. It exiſts in form of alkaline air, which is capable of decompoſition.

Subcretiſed volatile alkali or *Ammonia:* ſyn. Common mild concrete volatile alkali, ſalt of urine, volatile alkali, or ſalt of ſal ammoniac, volatile ſal ammoniac, ſalt of ſoot, of hartſhorn, volatile ſalt of bones, of ivory, of elks-hoof, of vipers, of earth-worms, &c. It contains 45 of acid, 43 of

of alkali, and 12 of water. Diſſolved in water, it is called mild ſpirit of ſal ammoniac, of hartſhorn, water of ammonia, &c.

This laſt is called volatile, as it exhales in the common temperature of the atmoſphere. The epithet *fixed* is often added to the names of the other two, as they require a great degree of heat to convert them into vapour.

EARTHY ALKALIES; ſyn. Alkaline, abſorbent, antacid earths.

1. **Barytes:* ſyn. Pure ponderous, or heavy earth. Soluble in 900 waters at 60°; ſpec. grav. 4.
   Subcretiſed barytes.
2. *Lime:* ſyn. Pure, calcined, burnt, cauſtic limeſtone, chalk, calcareous earth; quicklime. Soluble in 680 waters at 60°; ſpec. grav. 2.3.
   Subcretiſed lime: ſyn. Mild calcareous earth, as limeſtone, chalk, marble, marle, gur; animal ſhells and concretions, as oyſter ſhells; various ſpars, petrefactions, &c. It often contains 40 of acid.
3. *Magneſia:* ſyn. Pure, muriatic earth, or calcined magneſia. Soluble in 7692 waters at 60°; ſpec. grav. 2.33.
   Subcretiſed magneſia: ſyn. Common magneſia, magneſia of nitre, of common ſalt, Count de Palma's powder, Valentini's laxative polychreſt. It often contains $\frac{7}{12}$ of acid.
4. *Clay:* ſyn. Pure clay, argillaceous earth, earth of alum: As inſoluble as magneſia. Bole, as French bole, is an impure clay; ſpec. grav. 2.
   Subcretiſed clay.
5. The other primitive earth is the *Flinty;* ſyn. ſiliceous, cryſtalline, vitreſcent, or vitrifiable; which is ſoluble in no acid but that of ſpar. Sp. gr. 2.66.

The volatile alkali ſeems naturally to contain phlogiſton. All the three are alterable by certain phlogiſtic matters, and then ſaid to be phlogiſticated; the two fixt by ſuch means yield volatile alkali. Perhaps the alkaline principle is the ſame in all the alkaline ſubſtances, and they differ from one another only in the proportions of earthy matter and phlogiſton.

SALINE SALTS.

The ſaline ſalts may be produced, 1. By mixing the ingredients to the point of ſaturation; and in the caſe of perfect neutrals, till the diſtinguiſhing qualities of the ingredients are loſt. 2. By adding the acid to a compound containing the alkali. 3. By adding the alkali to a compound containing the acid. 4. By a double elective attraction. This applies in ſome meaſure to all compound ſalts.

The ſaline and earthy ſalts increaſe the diſcharges by the ſkin, the kidneys, and inteſtines, according to the doſe and patient's temperature; are uſed chiefly in active inflammatory and hemorrhagic ſtates, but ſometimes with

with the view of carrying off effused water or acrimony. Saline salts are rendered more active by large dilutions; and more grateful by sugar, lemon-juice, and an aromatic. Alum is chiefly used as an astringent.

1. *Vitriolated Vegetable Alkali* or *Kali;* syn. Vitriolated nitre or tartar. Glaser's sal polychrest. arcanum duplicatum, sal enixum de duobus. It contains 40 of acid, 52 of alkali, and 18 of water; soluble in 5 waters at 212°, and in 16 at 60°. Its crystals are subaquated and permanent; taste bitterish.
2. *Vitriolated Mineral Alkali* or *Natron;* syn Glauber's purging or wonderful salt, vitriolated soda. It contains 27 of acid, 15 of alkali, and 58 of water; soluble in four-fifths its weight of water at 212°, in 3 at 60°, by heat in its own water, is deaquescent; losing in both cases above one half its weight. Taste cool and bitterish.
3. *Nitriated Vegetable Alkali* or *Kali;* syn. Nitre, saltpetre, prismatic nitr, sal prunel, mineral crystal. It contains 33 of acid, 49 of alkali, and 18 of water; soluble in one water at 212°, and in 7 at 60°: crystals permanent. Taste cool, acrid, and bitterish.
4. *Muriated Vegetable Klkali* or *Kali;* syn. Digestive salt, Sylvius's febrifuge salt, regenerated sea-salt, spiritus salis marini coagulatus. It contains 31 of acid, 51 of alkali, and 8 of water; soluble in 2 waters at 212°, and in 3 at 60°. Crystals permanent and subaquated. Taste salt and acrid.
5. *Muriated Mineral Alkali* or *Natron;* syn. Salited fossile alkali; sea, fountain, mountain, fossile, marine, or common salt; sal gem. It contains 52 of acid, 42 of alkali, and 6 of water. Soluble in 2½ waters at 212°, and in a little more at 60°. Crystals permanent and subaquated. Taste salt and agreeable.
6. *Muriated Volatile Alkali* or *Ammonia;* syn. Crude, common, or simply sal ammoniac, armoniac, armeniac, cyreniac; salt of sand, flowers of sal ammoniac. It contains 52 of acid, 40 of alkali, and 8 of water; soluble in one water at 212°, and in 3½ at 60°. Crystals permanent. Taste acrid.
7. *Supertartarised Vegetable Alkali* or *Kali;* syn. Crystals or cream of tartar, pure tartar. Tartar, in its impure state, is called crude, red or white tartar, argol, or winestone. It contains about one fourth its weight of alkali; soluble in 28 waters at 212°, and in 150 at 60°. Crystals permanent. Taste acid. The excess of acid in compound salts adheres less firmly than the neutralising portion.
8. *Tartarised Vegetable Alkali* or *Kali;* syn. Tartarised tartar, soluble tartar, vegetable salt. Soluble in 4 waters at 60°; aquescent, taste bitter.
9. *Tartarised Fixed Alkali* or *Kalination;* syn. Rochelle salt, Seignette's polychrest salt, tartarised soda. It contains more than one-fourth of mineral alkali, less than one-fourth of vegetable alkali; soluble in 4 waters at 60°; deaquescent.
10. *Acetised Vegetable Alkali* or *Kali;* syn. diuretic salt, regenerated tartar, terra foliata tartari. It contains 19 of acid, 32 of lkali, and 49 of water; is very aquescent.
11. *Acetised Volatile Alkali* or *Ammonia;* syn. Mindererus's spirit, vegetable ammoniac. Very aquescent.

 12. *Sub-*

12. *Sub-boraxated Mineral Alkali* or *Natron;* syn. Borax, tincal, cryſocolla. It contains 34 of acid, 17 of alkali, and 47 of water; ſoluble in 6 waters at 212°, and in 12 at 60°; ſoluble by heat in its own water; and ſomewhat deaqueſcent.
13. *Lemonated Vegetable Alkali* or *Kali;* syn. Saline, or anti-emetic mixture.

EARTHY SALTS.

1. **Vitriolated Barytes*, syn. Ponderous ſpar or gypſum, Bononian ſtone, baroſelenite, marmor metallicum. Not ſoluble in 1000 waters at 212°.
2. **Vitriolated Lime;* syn. Gypſum, ſelenite, plaſter of Paris. Soluble in 500 waters at 60°.
3. *Vitriolated Magneſia;* syn. Bitter ſalt, bitter purging ſalt; Engliſh, Epſom, Sedlitz, or Seidſchutz ſalt. It contains 33 of acid, 19 of magneſia, and 48 of water; ſoluble in two-thirds of water at 212° and in one water at 60°; ſoluble by heat in its own water; deaqueſcent; loſing, in both caſes, one half its weight. Taſte cool and very bitter.
4. *Supervitriolated Clay;* syn. Alum. It contains 38 of acid, 18 of clay, 44 of water; ſoluble in two-thirds of water at 212°, and in 15 at 60°. Cryſtals permanent; ſoluble by heat in their own water, and loſe one half their weight.

Glutinous ſubſtances, whether inſipid or ſweet, are, like the ſalts, ſoluble in water; ſuſpend oil and heavier matters in water; are rendered miſcible in ſpirit by eſſential oil or reſin; defend from acrimony, and the ſweets render other medicines agreeable. Glutinous ſubſtances, when pure, may be diluted; or ſweetened in form of lozenge.

The *inſipid* are——*Gummi Arabicum*, Gummi Tragacanthæ, *Althæa Linum*, Malva, Convallaria, Lilium album, Satyrion, Lichen, Parietaria, Trichomanes, Fænum Græcum.——The *ſweet* are—*Saccharum*, *Manna*, Mel. *Glycyrrhiza*, Prunus Gallica, Uvæ paſſæ majores et minores, Carica, Caſſia fiſtularis, Ginſeng.

INFLAMMABLE BODIES.

Heat, from whatever ſource, as from condenſation, in the ſun's rays, electricity, chemical union, fermentation, animals, friction, or percuſſion, or phlogiſtic bodies, has the following general effects: Calefaction, rareſaction, as expanſion, fluidity, and vapour; ignition; and, with regard to phlogiſtic bodies expoſed to the air, inflammation, or combuſtion. The heat and phenomena of this laſt may be from the double chemical union and condenſation which take place, viz. the union betwixt the elementary bodies pure air and phlogiſton, and betwixt pure air and the reſiduum.

I. *Inflammable Air;* syn. Fire-damp.
II. *Alcohol;* syn. Ardent ſpirits, rectified ſpirit, ſpirit of wine, vinous ſpirit, pure ſpirit. It means a ſpirit free from all water, except what enters

enters its compofition as an ingredient. When its fpecific gravity is to water as 13 to 12, it is called rectified fpirit. This diluted with an equal weight of water, is called a proof-fpirit, a brandy, weak fpirit of wine. Its vaporific and inflammable point is 174°. Its ftrength is judged of by its partial or entire inflammability, levity, and fluidity. When pure, it is the fame from whatever fermented liquor it is diftilled. Its ingredients feem to be water, acid, and a fubtle oil containing its phlogifton. It diffolves the faline alkalies, and more or lefs of the following compound falts, moft of the ammoniacal falts, acetifed vegetable alkali, nitrated and muriated lime and magnefia, fupervitriolated iron fomewhat dephlogifticated, fupermuriated mercury. It does not diffolve the vitriolic compounds. It is ftimulant and intoxicating. Its compounds are,

1. *Vitriolic Æthereal Liquor;* fyn. Vitriolic æther, *vitriocol.*
2. *Dulcified Spirits;* fyn. Weak æthers; as *fweet fpirit of vitriol,* fyn. Vinous vitriolic acid, weak vitriocol.
3. *Sweet Spirit of Nitre;* fyn. Vinous nitrous acid, fpirit of nitrous æther, weak nitrocol.
4. *Sweet Spirit of Salt;* fyn. Vinous muriatic acid, weak murocol.
5. *Sweet Spirit of Sal Ammoniac;* fyn. Spirit of ammonia.

Oily Subftances, whether the unctuous, effential, or foffile, feem to owe their origin to organic matter, to confift of phlogifton, acid and water; and fhow little difpofition to unite with water.

III. The *unctuous* *; fyn Unguinous, expreffed, bland; fat; greafe. They feel flippery, inodorous, infipid; rife at 600°; form foap with alkali, plafter with metallic earth; evolve acid, or become rancid on keeping; and are only foluble in alcohol when rancid, diftilled, that is, empyreumatic, or feparated from foap or plafter by acid. They defend from acrimony, and relax. Their compounds are,

1. *Soap;* fyn. *alkalifed oil.*
2. *Balfam of Sulphur;* fyn. *fulphurated oil.*

IV. *Effential Oil* †; fyn. Aromatic oil; balfam, refin. The balfams and refins differ from the oils chiefly in confiftence. This oil feels lefs flippery

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* The unctuous fubftances are, Amygdalæ amaræ et dulces, oliva, laurus, palma, fevum ovile, axungia porcina, fpermaceti, cera alba, vipera. Unctuous oil may be given mixed with water in form of emulfion or mixture, by means of gum or volatile alkali; or with mucilage in form of linctus. The external applications differ chiefly in confiftence. The liniment confifts of one part of wax and four of oil; the ointment, of one of wax and two and a half of oil; the cerate, of one of wax and about two of oil, with one-eighth of fpermaceti. Thefe ferve to keep parts foft and from the air. The plafter confifts of oil and calx of lead; and ferves to keep parts firm, and retain dreffings. With thefe, fubftances fuppofed ufeful may be mixed.

† In this, in a gummy or faline matter, refide thofe fenfible qualities by which the following medicines are arranged. They are not ufed in active

pery than the unctuous, has a ſtrong odour, pungent taſte; riſes at 212°, or leſs; ſoluble in alcohol; generally lighter than water.

V. *Foſſil*

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tive inflammatory or hæmorrhagic ſtates of the ſyſtem, except when the evacuation they occaſion may compenſate any bad effects from their ſtimulus. In general, they vary in their quantity of inert and active matters. Their active matter, diſſolved in form of expreſſed juice, infuſion, or tincture, or freed from the ſolvent, without an injuring heat, in form of extract, is their moſt certain ſtate †. The leſs diſagreeable ones, however, are often given ſimply divided, diffuſed in liquid, or ſuſpended by gum in form of a mixture, or inviſcated in form of electuary, bolus, or pill. The form of pill rendered ſoluble by gum or extract of liquorice, is in general beſt; as, except in infancy or difficult deglutition, it is eaſily ſwallowed, it covers any diſagreeable taſte, confines the active matter; and from its ſlownefs of ſolubility, and as it can be longeſt continued without diſguſt, it is particularly ſuited to active medicines and chronic complaints, in which theſe medicines are chiefly uſed.

Acrids excite local heat, pain, and bliſters, and increaſe ſecretion. They are given internally to increaſe ſecretion; and ſome are chiefly uſed as emetic, cathartic, or anthelmintic. *Cantharides;* arum, rhododendron; urtica, millipedæ; pyrethrum, pimpinella; aſarum, hippocaſtanum; dolichos, ſpigelia, filix mas, Geoffræa; *ſinapi album*, cochlearia, naſturtium aquaticum, raphanus ruſticanus, cardamine; flammula Jovis, mezereon, ſarſaparilla, bardana, lobelia ſyphilitica, pulſatilla nigricans; *ſcilla*, *allium*, colchicum, cinara, digitalis; iris paluſtris, ſeneka, ſambucus, bryonia, melampodium, veratrum, gambogia, ſcammonium, *jalapa*, *ſenna*, *ricinus*, *ipecacuanha*.....

Aſtringents excite a ſenſe of roughneſs in the mouth, and form ink with a ſolution of iron. They conſtringe the animal fibre, and are given to obviate weakneſs, increaſed diſcharges, and putreſcence. Catechu, kino, biſtorta, uva urſi, quercus, gallæ, agaricus, lignum Campechenſe, granata malus, cydonia malus, tormentilla, roſa rubra, plantago, hydrolapathum, ulmus, tuſſilago, verbaſcum, ſcolopendrium; *rheum*.

Bitters are given to obviate weakneſs, morbid acid, worms, and putreſcence. Some are chiefly uſed as cathartic. *Gentiana*, curſuta, quaſſia, ſimarouba, radix indica Lopeziana, *columbo*, *cortex Peruvianus*, ſalix, *chamæmelum*, artemiſia, abſynthium, abrotanum, centaureum minus, carduus benedictus, ſantonicum, tanacetum, taraxacum, menyanthes, ſumaria, marrubium, rubia, dulcamara, dictamnus albus, ſcordium, geniſta, gratiola, elaterium, rhamnus catharticus, colocynthis, *aloe ſoccotorina*, aloe hepatica.

V. *Foſſil Oil*, ſyn. *Naphtha*, is a light, volatile, fragrant, penetrating oil, not ſoluble in alcohol, but unites with ſome eſſential oils. Its impure

† It might be of uſe to diſtinguiſh the ſolvent of the ſubſtance; as by the terms aquated, coliſed, aquacoliſed; and the extract, by the terms deaquated, decoliſed, deaquacoliſed.

pure kinds are, Petroleum, or rock oil; mineral pitch, Barbadoes tar, or devil's dung; * asphaltum, Jews pitch, or mamia mineralis; * jet; amber; * fossil or pit-coal: and are called bitumens.

VI. *Animal Oil*, syn. Dipellius's oil, is an empyreumatic oil, distilled chiefly from the glutinous parts of animals, and rectified by gentle distillations into a light, volatile, odorous, penetrating oil, containing volatile alkali.

VII. *Sulphur;* syn. Brimstone, mineral sulphur, flowers of sulphur. It is idioelectric, insoluble in water, has little taste or smell till heated; its specific gravity about 2; rises at 170°, melts at 185°, and flames at 302°; contains of acid 60, of phlogiston 40 *per cent.* It is laxative and antipsoric. Its compound is,

Liver of sulphur; syn. hepatic sulphur, *sulphur-cali;* hence hepatic or *sulphur-caline air;* an antidote to mineral poisons, and is used externally in chronic eruptions.

VIII. *Phosphorus*, a kind of very inflammable sulphur, consisting of acid of bones and phlogiston.

IX. * *Charcoal:* syn. Charred vegetables, as charred linen or tinder; charred

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Odorous substances are subdivided into aromatics and fetids, between which it is not easy to draw the line of distinction.—The odorous principle, in a moderate degree, stimulates, refreshes, and strengthens; in a certain greater degree, its stimulus is so considerable and quickly diffusive, that it has the appearance of being entirely and directly sedative. Aromatics render other medicines agreeable, and are grateful stimulants in cases of weakness, spasm, or flatus; but cannot be so long continued as the fetids, nor are they so important medicines. The fetids are much used in states of weakness attended with spasm, flatus, pain, watchfulness, and bad ulcers.

Aromatics. Cinnamomum, cassia lignea, canella alba, cascarilla, santalum citrinum, sassafras, zedoaria, acorus, aristolochia, iris Florentina, enula campana, contrayerva, serpentaria virginiana, *zingiber*, curcuma; pimento, cubebæ; piper longum, nigrum, et indicum caryophilli aromatici et rubri, nux moschata, limonia mala, aurantia Hispalensia, Juniperus; *anisum*, fœniculum dulce et vulgare, anethum, coriandrum, carvi, cardamomum minus, cuminum, petroselinum, daucus sylvestris, angelica sativa et sylvestris, ligusticum, imperatoria, mentha sativa et *piperitis*, melissa, millefolium, pulegium, hedera terrestris, hyssopus, salvia, majorana, thymus, serpyllum, *lavendula*, rosmarinus, rosa pallida, arnica; terebinthina veneta, balsamum Canadense, Gileadense, copaibæ, peruvianum, tolutanum; benzoinum, mastiche, styrax calamita, *storax liquida;* olibanum, myrrha.

Fetids. Gummi ammoniacum, sagapenum, galbanum, *asafœtida*, *camphora*, *moschus*, castoreum, *guaiacum*, valeriana sylvestris, sabina, artiplex fœtida, ruta. The narcotic fetids are, *Opium*, cicuta, hyoscyamus, belladona, aconitum, stramonium.

Colorants are such substances as are used for giving colour to medicines. Sanguis draconis, anchusa, coccinella, rosa rubra, caryophilli rubri, viola.

red pit-coal, as coaks or cinders; animal charcoal, as charred ox-blood; charred oil, as lamp-black. These part with their phlogiston in the order in which they stand. It consists of phlogiston, earth, acid of chalk, and alkali. It is used for fuel, and for phlogisticating other matters. The earth of vegetables, whether from putrefaction or combustion, is either lime, or a mixture of all kinds, often with iron and manganese, the vitriolated and muriated fixt alkalies, vitriolated and phosphorated lime, and liver of sulphur. The earth of the shells of fish and eggs is lime; oyster-shells contain some vitriolated lime; the earth of bones, horns, claws, &c. is phosphorated lime.

METALS.

The Metals are found sometimes native, with their entire complement of phlogiston; or mineralised in the form of ore, that is, more or less dephlogisticated by their union with sulphur, arsenic, acid of chalk, sometimes of vitriol, and of salt, and even of phosphorus.

They are malleable in the following order; Gold, silver, copper, iron, tin, lead, mercury, and zinc: tenacious in the following order; Gold, iron, copper, silver, tin, and lead. Bismuth, antimony, and arsenic, have a foliated texture; the rest are of a granulated one. Metals by hammering are apt to harden; and by applying heat, and cooling slowly, the particles are separated, and allow a new approximation. Metals exposed to heat and air burn; some emitting flame, as zinc, iron, copper, silver, tin, lead, antimony, gold, and arsenic: And all, except the perfect metals, part with phlogiston; absorb pure air, seemingly changing it partly into acid of chalk; diminish in specific, but increase in absolute weight; lose their splendor, ductility, opacity, fusibility, volatility, solubility in acids, power of being reduced, their disposition to unite even with their own metals, their power of conducting electricity, their activity on the human system: they assume the appearance of earths called calces, of different colours, as grey, brown, glassy, red, white; some becoming soluble in water, or even converted into acid. The process is called Calcination.

Iron, which is found in almost every part of nature, is the only metal seemingly friendly to the human system: the rest are either inert, or more or less deleterious; and their use cannot be continued long with safety. They are administered, 1. In the state of regulus, or metal simply divided. 2. Calcined, by heat and air, or by nitre, as the calces; or by acids, as the precipitates. 3. Saline preparations. And, 4. Combined with sulphur.

Zinc, specific gravity $7\frac{1}{10}$; melts, inflames, and rises at 700°; bluish.
Iron 8, 1695°; bluish; capable of welding; magnetic.
Manganese $6\frac{9}{10}$; bluish.
Cobalt $7\frac{7}{10}$: bluish.
Nickel 9; whitish red; magnetic.
Lead $11\frac{4}{10}$; 585°; bluish.
Tin $7\frac{7}{10}$; 408°; white.
Copper 9; 1410; pale red; volatile.

Bismuth

Bismuth $9\frac{3}{10}$; 460°; whitish-red.
Antimony $6\frac{7}{10}$; 809°; rises, white.
Arsenic $8\frac{1}{10}$; bluish; volatile.
Mercury 14; congeals at 40° below 0°; boils at 600°; white.
Silver 11; 1000°; white.
Gold $19\frac{1}{2}$; yellow.
Platina 23; white.
Tungstein metal.

METALS calcined by Heat and Air; syn. Calces, dephlogisticated Metals.

1. *Calcined Zinc*; syn. Calx of zinc, flowers of zinc, philosophical wool.
2. *Subcalcined Iron*; syn. Scales of iron.
3. *Red Lead*; syn. *Red calcined lead.*
4. *Litharge*; syn. *Subvitrified lead.*
5. *Grey Calx of Antimony.*
6. *Nitrated Calx of Antimony*; syn. James's powder, *nitro-recalcined antimony.*
7. *Glass of Antimony*; syn. *Vitrified antimony.*
8. *Crocus of Antimony*; syn. Crocus of metals, *red nitro-calcined antimony.*
9. *Calcined Mercury*; syn. Mercury precipitated by itself.

Metallic SALTS.

ACID of nitre is the most powerful solvent of the metals: its action requires sometimes to be moderated, or the metal is apt to separate. The acid of vitriol requires even a boiling heat to attack mercury or silver. The acid of salt has still less disposition to unite with them; but when dephlogisticated, it dissolves all metals completely. To metals dephlogisticated as by the other acids, it shows a stronger attraction, even in its ordinary state, by taking the metals from them.

The other acids are in general weaker in solvent power.

Metals dephlogisticated to a certain degree are soluble both in acids and alkalies.

Metals cannot unite with acids without losing their phlogiston so far as to be in the state of calces; nor can they remain united if they lose more, which metallic solutions are very apt to do by exposure to the air. Perfect solutions are transparent, and tinged with the proper colour of the calx. The colour seems to vary according to the quantity of phlogiston present; and by a sufficient quantity, all colour is sometimes destroyed.

The causticity that is in some of the metallic salts seems to be owing to their attraction for phlogiston.

Precipitates retain some of the solvent and of the precipitant, from which they can hardly, if at all, be freed. Precipitates by mild fixt alkalies, carry down acid of chalk and water; and by volatile alkali, phlogiston.

1. *Vi-*

1. *Vitriolated Zinc;* syn. White vitriol or copperas, vitriol of zinc or of Goslar; it contains 12 of acid, 20 of zinc, and 58 of water; soluble in two waters at 60°.
2. *Super-vitriolated Iron;* syn. Green vitriol or copperas, salt or vitriol of iron, of steel, or of Mars; recently crystallised, contains 20 of acid, 25 of iron, and 55 of water; soluble in 6 waters at 60°.
3. *Supertartarised iron.*
4. *Super-vitriolated Copper;* syn. Blue, Roman, Cyprus vitriol or copperas; contains 30 of acid, 27 of copper, and 34 of water; soluble in 4 waters at 60°.
5. *Super-vitriolated Mercury;* syn. Vitriol of mercury; contains 19 of acid.
6. *Supernitrated Mercury;* syn. Nitre of mercury; contains 28 of acid.
7. *Super-nitrated Silver;* syn. Salt of silver, lunar caustic or cathartic; contains 36 of acid.
8. *Super-muriated Antimony;* syn. Butter or caustic of antimony.
9. *Super-muriated Mercury;* syn. Corrosive sublimate Mercury; contains 16 of acid, 77 of mercury, and 6 of water; not decomposable by heat; crystals permanent; soluble in 19 waters at 60°, and in alcohol; unites with muriated volatile alkali, which renders it remarkably soluble.
10. *Super tartarised Antimony;* syn. Emetic tartar; soluble in 60 waters at 60°.
11. *Super-acetised Lead* or *ceruſſe;* syn. Salt or sugar of lead, or of saturn; acetised ceruſſe.
12. *Superacetised mercury,* soluble in 3 waters at 60°.

Ammoniacal Copper and *Ammoniacal Iron,* or *Martial flowers,* contain metal, volatile alkali, and acid.

Subacidated Metals.

1. *Rust of Iron;* syn. Subcretised iron.
2. *Submuriated Mercury;* syn. Sweet mercury sublimate, calomel, aquila alba, mild muriated mercury. It contains 14 of acid and water, and 86 of mercury.
3. *Subacetised Lead;* syn. Ceruſſe, white lead.
4. *Subacetised Copper;* syn. Verdegris.

Calcined metallic Salts.

1. *White Calcined Vitriol;* syn. *Calcined Vitriol.*
2. *Red Calcined Vitriol;* syn. Colcothar of vitriol.
3. *Calcined Nitrated Mercury;* syn. Red corrosive mercury, red precipitate.

Sulphurated Metals.

1. *Sulphurated Antimony;* syn. Antimony, crude and prepared antimony, ore of antimony.
2. *Sulphurcaline Antimony;* syn. *Kermes mineral.*

3. *Decalised*

3. *Dealcalised Sulphurealine Antimony;* syn. Precipitated sulphur of antimony, *golden sulphur of antimony.*
4. *Sulphurated Mercury;* syn. Native and factitious cinnabar, ore of mercury, vermilion, Æthiops mineral, antimonial Æthiops.

PRECIPITATES.

1. *Devitriolated mercury;* syn. Yellow emetic mercury; turbith mineral.
2. *Denitrated mercury;* syn. Ashy powder of mercury.
3. *Demuriated antimony;* syn. Powder of algaroth; mercury of life.
4. *Demuriated mercury;* syn. White precipitate of mercury; white calx of quicksilver.

WATER.

WATER is about 850 times heavier than air; its vapour occupies 1400 times more space than when in a liquid state: like air, it exists in almost every body of nature, and is never found pure.

The chief substances found in water are, Pure, inflammable, and hepatic airs; acid of chalk; the fixt alkalies, vitriolated, muriated, cretised; the vegetable, oftener nitrated; cretised volatile alkali; muriated barytes; lime, and sometimes magnesia, vitriolated, nitrated, and subcretised; sometimes clay, super vitriolated and muriated; iron, vitriolated, muriated, cretised; manganese, muriated; copper, vitriolated; calx of arsenic; petroleum; vegetable and animal putrescent mucilage. Waters are examined by the senses, and by evaporation, during which the volatile and fixt matters are separated and collected; or by precipitants or tests. The chief of these tests are vegetable blue infusions, as that of red cabbage, for acids and alkalies; a saturated solution of an astringent, as that of gall-nut in spirit of wine, for iron; phlogisticated alkali for the metals; vitriolic acid for barytes; acid of sugar for cretised lime; cretised alkali for magnesia and clay; nitrated silver and muriated barytes for acids united with other substances; alcohol for acidated alkalies: any acid for saline or earthy hepar, &c.

AIRS.

Pure Air, specific gravity 110.
Phlogisticated Air 140.
Acid of Chalk 220.
Common Air 152.
Inflammable Air 10.
Nitrous Air 157.
Marine Acid Air 252.
Vitriolic Acid Air 300
Alkaline Air 70.

Cases

Cases of DOUBLE *Elective Attraction.*

BY WATER.

1. Phlogisticated iron with Vitriolated copper,	Give	1. Phlogisticated copper and Vitriolated iron.
2. Acidated earth, or metal, with Cretised alkali,		2. Acidated alkali and Cretised earth or metal.
3. Acidated ammonia with Cretised fixt alkali or earth,		3. Acidated fixt alkali or earth and Cretised ammonia.
4. Vitriolated alkali, magnesia, or clay, with Nitrated, muriated, or acetised lime,		4. Vitriolated lime, and Nitrated, muriated, or acetised alkali, magnesia, or clay.
5. Vitriolated or muriated alkali or earth with Nitrated or acetised lead, mercury, or silver,		5. Vitriolated or muriated lead, mercury, or silver, and Nitrated, or acetised alkali, or earth.
6. Vitriolated, nitrated, or acetised silver, with Muriated alkali, or earth,		6. Vitriolated, nitrated, or acetised alkali, or earth, and Muriated silver.
7. Vitriolated kali with Muriated lime, or lead,		7. Vitriolated lime, or lead, and Muriated kali.
8. Tartarised or acetised kali with Nitrated mercury,		8. Tartarised or acetised mercury and Nitrated kali.
9. Vitriolated ammonia with Nitrated, muriated, or acetised fixt alkali,		9. Vitriolated fixt alkali, and Nitrated, muriated, or acetised ammonia.
10. Vitriolated, nitrated, or muriated ammonia, with Acetised fixt alkali or lime,		10. Vitriolated, nitrated, or muriated fixt alkali or lime, and Acetised ammonia.
11. Vitriolated mercury with Muriated natron,		11. Vitriolated natron and Muriated mercury.

BY HEAT.

1. Muriated mercury with Sulphurated antimony,	Give	1. Muriated antimony and Sulphurated mercury.

THE

THE EDINBURGH NEW DISPENSATORY.

PART I.

ELEMENTS of PHARMACY.

CHAPTER I.

A general View of the Properties and Relations of Medicinal Substances.

SECT. I.

VEGETABLES.

VEGETABLES are organized bodies, furnished with a variety of vessels for the reception, transmission, and perspiration of different fluids. Analogous to animals, they are reproduced from seeds and eggs, and are endowed with functions, whereby the aliment they imbibe is changed into new forms, into solids and fluids, peculiar to particular plants, and to different parts of the same plant.

The analogy between the vegetable and animal kingdoms will appear still more striking, when we consider that the former exhibit, though in a less degree, all the phenomena of sensibility and motion.

The *pabulum* of vegetables, like that of most animals, is of a mixed nature; and is made up of the necessary union of water, heat, and light, and less necessarily of air and earth: the office of these two last seems to be that of filtres, or vehicles for conveying the other principles in proper form.

From varieties in the state and proportion of these several agents, a very multiplied diversity takes place in the external form, quantity, and quality of one and the same vegetable: hence the difference of plants from the soil, climate, season, and other similar circumstances. The influence of heat, and light, or what is probably the same thing, the absorption of the inflammable principle, is perhaps the most important article in the aliment of vegetables. This principle, whether derived from the solar rays, from putrid matters employed in manure, or from

the putrefaction of the wild growth, assisted by calcareous earths and other septics, is found at all times to modify, in a peculiar manner, the form, the quantity, and even the sensible and inherent properties of vegetables: it is of importance however to remark, that the soundness and specific principles of vegetables are not invariably the more complete in proportion to the vigour of their growth; high health, which is always a dangerous state in the constitution of animals, is often the means of perverting or destroying the œconomy of vegetable life. Thus the finer aromatics, which naturally inhabit the dry and sandy soils, when transplanted into a moist and rich one, or, in other words, when placed in mould abounding in the *fomites* of inflammable principle, grow with rapidity and vigour, have their bulk considerably increased, but lose very much of their fragrance, as if their active principles were exhausted by the luxuriance of their growth.

Plants are also found to differ considerably in the different periods of their growth. Thus some herbs in their infancy abound most with odoriferous matter; of which others yield little or none till they have attained to a more advanced age. Many fruits, in their immature state, contain an austere acid juice, which by maturation is changed into a sweet: others, as the orange, are first warm and aromatic, and afterwards by degrees become filled with a strong acid. The common grain, and sundry other seeds, when beginning to vegetate, are in taste remarkable sweet: yet the kernels of certain fruits prove, at the same period, extremely acid. The roots of some of our indigenous plants, whose juice is, during the summer, thin and watery, if wounded early in the spring, yield rich balsamic juices, which, exposed to a gentle warmth, soon concrete into solid gummy-resins, superior to many of those brought from abroad. In open exposures, dry soils, and fair warm seasons, aromatic plants prove stronger and more fragrant, and solid ones weaker in small than in the opposite circumstances. To these particulars therefore due regard ought to be had in collecting plants for medicinal uses.

It may be proper to observe also, that the different parts of one plant are often very different in quality from each other. Thus the bitter herb wormwood rises from an aromatic root; and the narcotic popy-head includes seeds which have no narcotic power. These differences, though very obvious in the common culinary plants, do not seem to have been sufficiently observed, or attended to, in the medicinal ones.

Without any obvious dependence on the circumstances above-mentioned, vegetables are also, like animals, obnoxious to diseases and death. These, whether occasioned by intense cold, by insects, lightning, or other causes, always maintain a striking analogy to the affections of animals. A difference however arises from this, that the several parts of vegetables do not constitute such a mutually depending system as those of the more perfect animals: Hence it is, that a very considerable part of a plant may be diseased or dead, whilst the rest enjoys a perfect integrity of life and health. Though the physiology of vegetables is hitherto insufficient for forming any complete doctrines of the causes and cure of their several diseases; yet it is commendable to have an eye to the formation of a pathology of the vegetable kingdom: in the state even of our present knowledge, it is of importance in the study of pharmacy to be aware that such diseases do really exist, and are capable of changing or destroying the active principles of many of our most valuable herbs. In the

the plants more evidently ſenſitive, the diſeaſes exhibit a very cloſe propinquity to many of thoſe of animals: ſeveral of the remote cauſes are ſuch as are known to obſtruct perſpiration, to induce general debility, or otherwiſe diſorder the animal œconomy. The diſeaſes alſo are evidently marked by a diminution of their ſenſitive and moving principle; and perhaps, in conſequence of this, their ſolids, their ſap, and other fluids, ſhrivel and decay, and the whole plant aſſumes new forms, is impregnated with inert, or fraught with noxious principles. Analagous alſo to animals, the plant, when deprived of the living principle, runs into all thoſe changes common to what is called inanimate matter. Theſe changes we next proceed to examine.

I. *Productions from Vegetables by* Fermentation.

Fermentation is that ſpontaneous motion excited in dead vegetables and animals; but which is peculiar to thoſe organic ſubſtances elaborated by the principle of vegetable or animal life.

The circumſtances favouring fermentation in general are, a certain degree of fluidity, a certain degree of heat, and the contact of the air.

There are however ſeveral ſubſtances, of themſelves not ſuſceptible of fermentation, which nevertheleſs may be brought into that ſtate by the admixture of thoſe that are; as by adding to them, along with a proper quantity of water, a portion of the yeſt or head thrown up to the ſurface of fermenting liquors. Without this expedient many vegetables would run immediately into the acetous, and ſome of them into the putrefactive fermentations. It is alſo found, that though acetous and putrefactive ferments are unable to ſtop the vinous fermentation, they are however capable of aſſimulating the liquor to their own nature in a more pefect form; and hence it is, that in the manufactures of wine, rum, and vinegar, it is found uſeful to keep the veſſels well ſeaſoned with the liquor intended to be prepared. Three different kinds or ſtages of fermentation have been generally diſtinguiſhed by chemiſts. The vinous, which furniſhes alcohol, or what is commonly called ſpirit; the acetous, which affords vinegar; and the putrefactive, which yields volatile alkali. Being pretty conſtant in ſucceſſion to each other, the whole proceſs will be beſt underſtood by conſidering each of them apart. All vegetable ſubſtances are not capable of the vinous fermentation: the conditions neceſſary to its production are, a ſaccharo-mucilaginous matter; a fluidity a little viſcous, the proper degree of which is beſt learned from experience; a heat from 40 to 96 of Fahrenheit's thermometer; a conſiderable maſs of matter; and, laſtly, the acceſs of the external air.

The phenomena exhibited in the vinous fermentation are, a briſk tumultuary motion, the liquor loſes its tranſparency and homogeneous appearance, its bulk and heat are conſiderably increaſed, the ſolid parts are buoyed up to the top, and a great quantity of a permanently elaſtic fluid is diſengaged. This fluid or gas being ſomewhat heavier than atmoſpheric air, floats in ſeparate maſſes next the ſurface of the liquor; and is from this and other appearances eaſily diſtinguiſhed from common air: It extinguiſhes flame and animal life, precipitates lime from lime-water, cryſtalliſes and renders mild the cauſtic alkali; and is therefore the gas ſylveſtre of Helmont, and the fixed air or aërial acid of modern chemiſts.

After ſome time the tumultuary motion in the liquor is ſuddenly checked, perhaps from the generation of the alcohol; a fine ley is alſo precipitated; and the floating matter, if not purpoſely prevented, ſubſides to the bottom of the veſſel. In the wines produced from the grape, a large quantity of a ſaline concrete is likewiſe incruſted on the ſides and bottom of the caſks; and this is commonly known by the name of tartar, the properties of which we ſhall afterwards examine. At the termination of theſe phenomena, the vegetable matter has aſſumed new properties; and from being a mild, ſweet, or gently acidulous infuſion, is now become the briſk pungent, and inebriating liquor, called Wine or Vinous Liquor.

Fermented or vinous liquors are prepared from a great variety of ſubſtances: the ſaccharine, or thoſe rendered ſo by a beginning vegetation, are in general fitteſt for the purpoſe; a multitude of collateral circumſtances are alſo neceſſary for the proper management of the proceſs; and in vinous liquors, great diverſities are found independent of their being more or leſs watery. Theſe differences are not only obſervable in wines produced from different ſubſtances, but alſo in thoſe prepared from one and the ſame vegetable. Theſe diverſities may be referred to the different conditions of the ſubſtance to be fermented, to the ſtates of fluidity and heat, and to the degree of fermentation to which the ſubject has been carried. This laſt is principally modified by the preceding cauſes, and not unfrequently by very minute and apparently trifling circumſtances in the conduct of the operator. Hence the numberleſs varieties in the vinous liquors produced from the grape, which have been more peculiarly denominated *wines*: It is an important part of pharmacy to inquire into theſe differences with care and attention.

The diverſity in vinous liquors is ſtill more obvious in thoſe produced from different vegetables. Many of the native qualities of the ſubſtance, ſuch as colour, taſte, flavour, &c. often remain in the wine; not being totally ſubdued by that degree of fermentation by which the liquor is rendered vinous. Hence the remarkable difference of wines as produced from the grape and thoſe furniſhed by the graminous ſeeds: the wine produced from theſe laſt has been more ſtrictly called *beer*; and this too is well known to differ as remarkably from thoſe produced from apples, pears, apricots, &c. as theſe differ from wine properly ſo called.

1. Of the Product of the Vinous Fermentation.

The product of all theſe fermented vegetables is, as we have juſt now mentioned, the pungent and intoxicating liquor called wine. It is proper, however, in pharmacy, to inquire into the different principles which enter into its compoſition as a mixt. As the wine furniſhed by grapes is the moſt valuable and generally known, we ſhall take it for our example. Grape-wine, then, is made up of a large quantity of water, of alcohol, of tartar, and of a colouring matter. It is proper, however, that we ſhould lay down the proofs of ſuch a combination in wine, and explain the methods by which it may be decompoſed and ſeparated into the conſtituent parts above mentioned

For this purpoſe, the aſſiſtance of the fire is generally had recourſe to. The liquor is put into an alembic; and as ſoon as it boils, a white milky fluid, of a pungent ſmell and taſte, diſtils into the recipient. This fluid is called *aquavitæ*, or, in common language, *ſpirit*: it is compounded of water

water and certain matters capable of ſuſpenſion in water, of alcohol, and of a ſmall proportion of oil; which laſt communicates to it the milky colour: the yellow colour, afterwards aſſumed, is partly owing to the ſame oil, and partly to a ſolution of the extractive matter of the wooden caſks in which the aquavitæ has been infuſed. This aquavitæ, like wine, always partakes more or leſs of the flavour of the vegetable from whence the wine has been prepared; but by farther diſtillation, and other proceſſes, it is freed of its water, and the native principles of the vegetable matter which the watery parts had kept in ſolution; when thus prepared, it is a pure *alcohol* or *inflammable ſpirit*, which is always the ſame from whatever vegetable the wine was produced.

After all the aquavitæ has been drawn off, the reſiduum now ceaſes to be wine; it is of a chocolate colour, of an acid and auſtere taſte; it has now aſſumed a heterogeneous appearance, and a great quantity of ſaline cryſtals is obſerved in the liquor; theſe cryſtals are the *tartar*. By the above proceſſes, then, we have fully decompoſed *wine:* but it is to be obſerved, that by this analyſis we have not ſeparated the different parts of wine in their original and entire ſtate; we are not hitherto acquainted with any method of regenerating the wine by recombining the aquavitæ with the reſiduum: ſome product, therefore, of the fermentation is changed or deſtroyed; and this product is probably ſome peculiar modification of fixed air or aërial acid. The reſiduum, when evaporated, aſſumes the form and conſiſtence of an extract; the colouring part may be abſtracted by rectified ſpirit of wine, but is not ſeparated from it by the addition of water: it ſeems therefore to be of a gummi-reſinous nature, and extracted from the grape by means of the alcohol generated during the fermentation.

From this analyſis, then, it is obvious, that wine is compoſed of water, colouring matter, alcohol, and a ſomething that is changed or loſt. We refer the particular examination of alcohol and tartar to the proper places aſſigned them in this work; and we expect that from this general ſurvey of the ſubject, the properties of wine, as a ſolvent of ſeveral medicinal ſubſtances to be towards examined, will be much more readily underſtood. Before we go farther, it is proper alſo to add, that the *ley* precipitated from wine during the fermentation, is a compound of ſtones, pieces of grape, tartar, and vitriolated tartar: the two firſt are inert bodies; of the two laſt we ſhall inquire particularly in their proper order. We are now prepared to conſider the nature and product of the next kind or ſtage of fermentation, viz, the

2. Acetous Fermentation.

To underſtand what goes on in the acetous fermentation, we muſt leave for the preſent our analyſis of the product of the vinous fermentation, and return to the wine itſelf in its moſt perfect and entire ſtate. It is proper to obſerve, that though, after the liquor has become vinous, a partial ceſſation of the more obvious phenomena takes place, yet the wine ſtill ſuffers a ſlow and imperceptible degree of fermentation. We are not then to conſider the liquor as being in a quieſcent ſtate, but as conſtantly approaching to the next ſtage, which we are now to conſider, viz. the *acetous fermentation.* This kind of inſenſible fermentation, or what we may call

the intermediate change, ſeems to be neceſſary to the perfection of the wine. Its degree, however, is to be regulated under certain limitations: when too much checked, as by cold, thunder, or ſuch like cauſes, the wine becomes vapid; when too much encouraged by heat, contact of air, &c. it approaches too far to the acetous change: but in order that the vinous ſhall proceed fully to the acetous fermentation, ſeveral circumſtances are required; and theſe are in general the ſame that were before neceſſary to the vinous ſtage. Theſe conditions are, a temperate degree of heat, a quantity of unfermented mucilage, an acid matter, ſuch as tartar, and the free acceſs of external air. When thus ſituated, the liquor ſoon paſſes into the acetous fermentation: but during this ſtage the phenomena are not ſo remarkable as in the vinous; the motion of air is now leſs conſiderable, a groſs unctuous matter ſeparates to the bottom, the liquor loſes its vinous taſte and flavour, it becomes ſour, and on diſtillation affords no inflammable ſpirit. It is now the acetous acid or vinegar; and when ſeparated by diſtillation from the unctuous ley, may be preſerved a conſiderable length of time without undergoing the putrid change: to this laſt, however, it always approaches leſs or more, in the ſame way as the vinous conſtantly verges to the acetous fermentation; and this will much more readily happen if the acid be allowed to remain with the unctuous ſeculent matter above mentioned. When thus ſituated, the vinegar quickly loſes its tranſparency, aſſumes a blackiſh colour, loſes its ſourneſs and agreeable odour, has now an offenſive taſte and ſmell, and when diſtilled at a certain period of the proceſs it yields volatile alkali.

The liquor is now arrived to the laſt ſtage, viz.

3. The Putrefactive Fermentation.

From the preceding phenomena, it is obvious, that the ſame ſubſtance which is capable of the vinous and acetous, is alſo capable of the putrefactive fermentation. It is perhaps impoſſible to induce the firſt without a mixture of the ſecond; or the ſecond without a mixture of the third. Hence it is that every wine is a little acid; and there are few vinegars without ſome diſpoſition towards putrefaction, and in which there is not a little volatile alkali, though it be neutralized by the acid which predominates. Notwithſtanding this ſeeming continuation of one and the ſame proceſs, the putrefaction of vegetables has its particular phenomena. The vegetable matter, if in a fluid ſtate, becomes turbid, and depoſites a large quantity of feculent matter: a conſiderable number of air-bubbles are raiſed to the top; but the motion of theſe is not ſo briſk in the putrefactive as in the vinous, or even the acetous fermentation: neither the bulk nor heat of the liquor ſeems to be increaſed; but an acrid pungent vapour is perceived by the ſmell, and which, by chemical trials, is found to be the volatile alkali; by degrees this pungent odour is changed into one leſs pungent, but much more nauſeous. If we ſuppoſe the ſame train of phenomena to have taken place in a vegetable conſiſting of parts ſomewhat ſolid, its coheſion is now broke down into a ſoft pulpy maſs; this maſs, on drying, loſes at length its odour entirely, leaving a black, charry-like reſiduum, containing nothing but earthy and ſaline ſubſtances.

It is proper to obſerve, that though the circumſtances favouring the putrefactive are the ſame with thoſe requiſite to the vinous and acetous fermentations,

fermentations, yet these several conditions are not so indispensable to the former as to the two latter stages. All vegetables have more or less tendency to putrefaction, and a great number are capable of the acetous fermentation: but the proportion of those capable of the vinous is not considerable; and these last will run into the putrid in circumstances in which they cannot undergo the vinous or even the acetous fermentations. Thus flour made into a soft paste will become sour: but it must be perfectly dissolved in water to make it fit for the vinous stage; whereas mere dampness is sufficient to make it pass to the putrid fermentation; besides the condition of fluidity, a less degree of heat, and a more limited access of air, likewise suffice for producing the putrefactive fermentation.

It is therefore probable, that all vegetables, in whatever state, are liable to a kind of putrefaction: in wood and other solid parts the change is slow and gradual, but never fails at length to break down their texture and cohesion.

We formerly observed, that the vapours separated during the vinous fermentation were fixed air or aërial acid; and it is indeed true, that in the incipient state a quantity of this gas is still evolved, and along with it a quantity of alkaline air: in the advanced state, however, we find these vapours of a different nature; they now tarnish silver, and render combinations of lead with the vegetable acids of a black colour. When produced in large quantity, and much confined, as happens in stacks of hay put up wet, they burst into actual flame, consuming the hay to ashes: on other occasions, the escape of these vapours discovers itself by an emission of light, as in the luminous appearance of rotten wood when placed in the dark. From the above phenomena it is evident, that these vapours abound with the principle of inflammability; and their odour probably depends on this principle loosely combined with the water, or some other parts of the volatilised matter. This gas is therefore different from that separated during the vinous fermentation; it is the phlogisticated, and sometimes the inflammable air of Dr Priestley.

We have thus, for the sake of clearness, and in order to comprehend the whole of the subject, traced the phenomena of fermentation through its different stages: it is proper, however, to observe, that though every vegetable that has suffered the vinous will proceed to the acetous and putrefactive fermentations, yet the second stage is not necessarily preceded by the first, nor the third by the second; or in other words, the acetous fementation is not necessarily confined to those substances which have undergone the vinous, nor the putrefactive to those which have undergone the acetous fermentation. Thus it is, that gums dissolved in water shall pass to the acetous without undergoing the vinous fermentation; and glutinous matter seems to run into putrefaction without showing any previous acescence: and farther, these changes frequently happen although the matter be under those conditions which are favourable to the preceding stages.

From the foregoing sketch, the importance of this subject in the study of Pharmacy will be obvious at first sight: it cannot, however, afford us any useful information on the native principles of vegetables. But it presents to us new products, the importance of which is well known in chemistry, in medicine, and in arts. The necessity of being well acquainted with the several facts (for of theory we know none satisfactory), will appear

appear in the pharmaceutical hiſtory and preparation of many of our moſt valuable drugs. We are next to conſider a ſet of no leſs complicated operations, viz.

II. *Productions from vegetables by* Fire.

In order to analyſe, or rather to decompoſe vegetables by the naked fire, any given quantity of dry vegetable matter is put into a retort of glaſs or earth. Having filled the veſſel about one half or two thirds, we place it in a reverbatory furnace, adapting it to a proper receiver. To collect the elaſtic fluids, which, if confined, would burſt the veſſels (and which, too, it is proper to preſerve, as being real products of the analyſis), we uſe a perforated receiver with a crooked tube, the extremity of which is received into a veſſel full of water, or rather of mercury, and inverted in a baſon containing the ſame: by this contrivance, the liquid matters are collected in the receiver, and the aëriform fluids paſs into the inverted veſſel. If the vegetable is capable of yielding any ſaline matter in a concrete ſtate, we interpoſe between the retort and the receiver another veſſel, upon whoſe ſides the ſalt ſublimes. Theſe things being properly adjuſted, we apply at firſt a gentle heat, and increaſe it gradually, that we may obſerve the different products in proper order. At firſt an inſipid watery liquor paſſes over, which is chiefly made up of the water of vegetation; on the heat being a little farther increaſed, this watery liquor, or *phlegm*, becomes charged with an oily matter, having the odour of the vegetable, if it poſſeſſed any in its entire ſtate; along with this oil we alſo obtain an acid reſembling the acetous, and which communicates to the oil ſomewhat of a ſaponaceous nature; on the heat being carried ſtill farther, we procure more acid, with an oil of a dark colour, and the colour gradually deepens as the diſtillation advances. The oil now ceaſes to retain the peculiar odour of the vegetable; and, being ſcorched by the heat, ſends forth a ſtrong diſagreeable ſmell like tar: it is then called *empyreumatic oil.* About this time alſo ſome elaſtic vapours ruſh into the inverted veſſel; theſe generally conſiſt of inflammable or fixed airs, and very often of a mixture of both; the volatile ſalt now alſo ſublimes, if the vegetable was of a nature to furniſh it. By the time the matter in the retort has acquired a dull red heat, nothing further will ariſe: we then ſtop; and allowing the veſſel to cool, we find a maſs of charcoal, retaining more or leſs the form and appearance of the vegetable before its decompoſition.

We have thus deſcribed, in the order of their ſucceſſion, the ſeveral products obtained from the generality of vegetables when analyſed in cloſe veſſels and in a naked fire.

It is, however, to be underſtood, that the proportion of theſe principles turns out very various; the more ſucculent yield more water, and the more ſolid afford a greater quantity of the other principles. Independently alſo of this difference, the nature of the products themſelves are found to differ in different vegetables: thus in the cruciform plants, and in the emulſive and farinaceous ſeeds, the ſaline matter which comes over with the water and oil is found to be alkaline; ſometimes again it is ammoniacal, from the combination of the acid with the volatile alkali paſſing over at the end of the proceſs; it is alſo probable, that the acids of vegetables are not all of the ſame nature, though they exhibit the ſame external

nal marks. When volatile alkali is obtained, it is always found in the mild effervescing state: it is procured, however, from a few vegetables only; it is seldom in a concrete form, being generally dissolved in the phlegm; and as it ordinarily makes its appearance about the end of the process, it is probable that its formation is owing to some peculiar combination of the oil and fixed alkali. The plants containing much oily combustible matter seem to be those which more peculiarly yield inflammable air, whilst the mucilages appear to be as peculiarly fitted for affording the fixed air or aërial acid. The chemical properties of charcoal seem to be always the same from whatever vegetable it has been produced: on a minute examination (which, however, is not the business of pharmacy), it is found to consist of fixed air, the principle of inflammability, a small quantity of earth, saline matter, and a little water. The whole of the analysis then amounts to air, water, earth, and the principle of inflammability; for by repeated distillations the oil is resolved into water, the principle of inflammability, and a little earth; the saline matter also is a product arising from a combination of the earthy matter with water or the principle of inflammability, in some shape or other, or perhaps with both. That these combinations take place, has at least been the opinion of the chemists.

We formerly said that charcoal was partly composed of saline matter; it therefore remains that we should next decompose the charcoal, in order to obtain or separate the articles next to be mentioned.

The fixed Salts of Vegetables.

When vegetable charcoal has been burnt, there remains a quantity of ashes or cinders of a blackish grey or white colour: these, when boiled or infused in water, communicate to it a pungent saline taste; the salt thus held in solution may, by evaporation, be reduced to a concrete state: this saline matter, however, is generally found to be mixed with ferruginous, earthy, and other impurities, and likewise with a number of neutral salts of different kinds. In this mixed condition it is the

Potashes used in Commerce.

This salt, or rather compound of different salts, is procured by burning large quantities of wood of any kind; and this process is called *incineration:* the predominating salt, however, is alkaline; and as the neutral salts are obtained to better advantage by other means, they are generally neglected in the purification of potashes. Potashes, then, freed from its impurities, and separated from the other salts by processes to be hereafter mentioned, is now

The fixed vegetable Alkali.

Alkalies in general are distinguished by a pungent taste, the very reverse of that of sourness; by their destroying the acidity of every sour liquor; and by their changing the blue and red colours of vegetables to a green: they attract more or less the moisture of the air, and some of them deliquate into a liquor. The fixed alkalies, which we shall at present consider more particularly, are fusible by a gentle heat: by a greater degree of heat they are dissipated; their fixity, therefore, is only relative to the other kind of alkalies, viz. the volatile: they dissolve and form glass

with

with earths: and, laſtly, when joined with acids to the point of ſaturation, they form what are called *Neutral Salts.*

Theſe characters will afford ſome neceſſary and preliminary knowledge of theſe ſubſtances in general; and we ſhall afterwards find that they are ſufficient to diſtinguiſh them from all other ſaline bodies: it is neceſſary, however, to examine them more minutely, and our analyſis has not yet reached ſo far as to preſent them in their ſimpleſt ſtate. Previous to the diſcoveries of Dr Black, the vegetable fixed alkali (which we at preſent ſpeak of particularly), when ſeparated from the foreign matters with which it is mixed in the aſhes, was conſidered to be in its pureſt ſtate; we ſhall afterwards find that it is ſtill a compound body, and is really a neutral ſalt, compounded of pure alkali, and fixed air or the aërial acid. We preſume, then, that the particular hiſtory of its chemical and medicinal properties will be better underſtood when we come to thoſe proceſſes by which it is brought to its moſt pure and ſimple ſtate. We ſhall only therefore obſerve for the preſent, that fixed vegetable alkali, not only in its pure ſtate, but alſo when neutraliſed by aërial acid, ſeems always to be one and the ſame thing, from whatever vegetable it has been produced. Thoſe of ſome ſea-plants muſt, however, be excepted: the ſaline matter obtained from theſe laſt is, like the former, in a mixed and impure ſtate; it differs, however, from potaſhes, in containing an alkali of ſomewhat different properties. The cinder of ſea-plants containing this alkali is called.

Soda.

Soda, then, as we have juſt now hinted, is produced by the incineration of the kali and other ſea-plants: And from this impure and mixed maſs of cinder, is obtained the marine, mineral, or muriatic alkali, or natron, as it is now denominated by the London College. This alkali has acquired theſe names, becauſe it is the baſe of the common marine or ſea ſalt: it differs from the vegetable alkali in being more eaſily cryſtallizable; when dried, it does not like the former attract humidity ſufficient to form a liquid; it is ſomewhat leſs pungent to the taſte, and, according to Bergman, has leſs attraction for acids than the vegetable alkali.

It is, however, to be obſerved, that this alkali, when deprived of fixed air, that is to ſay, when brought to its pureſt ſtate, can ſcarcely if at all be diſtinguiſhed from the vegetable alkali; and indeed the true diſtinction can only be formed from their combinations, each of them affording with the ſame acid very different neutral ſalts. It belonged to this place to mention ſome of the characters of alkalies in general, and alſo ſome of thoſe marks by which the vegetable and mineral alkalies are diſtinguiſhed from each other; but for a more particular hiſtory of their chemical and medicinal properties, we refer to the account of their pharmaceutical preparations. As the volatile alkali is rarely produced from vegetables, but is very generally obtained from animal matter, we ſhall conſider that kind of alkali when we come to analyſe the animal kingdom.

Of Vegetable Earth.

After all the ſaline matter contained in the aſhes of vegetables has been waſhed off by the proceſſes before mentioned, there yet remains an

insipid

insipid earthy-like powder, generally of a whitish colour, insoluble in water, and from which some iron may be attracted by the magnet. It is said to have formed alum with the vitriolic acid; a kind of selenite has also been obtained, but somewhat different from that produced by the union of the same acid with calcareous earth; this residuum of burnt vegetables differs also from calcareous earth, in not being susceptible of becoming quicklime by calcination. It has been found that this residuum, instead of an earth, is a calcareous phosphoric salt, similar to that obtained from the bones of animals.

We have thus finished our analysis of vegetables by the naked fire; and have only to observe, that, like that by fermentation, it can afford us no useful information on the native principles of the vegetable itself.

When chemistry began first to be formed into a rational science, and to examine the component parts and internal constitution of bodies, it was imagined, that this resolution of vegetables by fire, discovering to us all their active principles, unclogged and unmixed with each other, would afford the surest means of judging of their medicinal powers. But on prosecuting these experiments, it was soon found that they were insufficient for that end: that the analyses of poisonous and esculent plants agreed often as nearly as the analyses of one plant: that by the action of a burning heat, two principles of vegetables are not barely separated, but altered, transposed, and combined into new forms; insomuch that it was impossible to know in what form they existed, and with what qualities they were endowed, before these changes and transpositions happened. If, for example, thirty-two ounces of a certain vegetable substance are found to yield ten ounces and a half of acid liquor, above one ounce and five drams of oil, and three drams and a half of fixt alkaline salt; what idea can this analysis give of the medicinal qualities of *gum Arabic?*

III. Substances *naturally contained in Vegetables, and separable by Art without Alteration of their native Qualities.*

It has been supposed, that there is one general fluid or blood which is common to all vegetables, and from which the fluids peculiar to particular plants and their parts are prepared by a kind of secretion: To this supposed general fluid botanists have given the name of *sap*. This opinion is rendered plausible from the analogy in many other respects between vegetable and animal substances: and indeed if we consider the water of vegetation as this general fluid, the opinion is perhaps not very far from the truth; but the notion has been carried much farther than supposing it to be mere water, and the opinion of naturalists on this subject does not seem to be well supported by experience. It is difficult to extract this sap without any mixture of their constituent parts. But in a few vegetables, from which it distils by wounding their bark, we find this supposed general blood possessing properties not a little various: Thus the juice effused from a wounded birch is considerably different from that poured out from an incision in the vine.

1. Gross

1. Groſs Oils.

Vegetables, like animals, contain an oil in two different ſtates. That is, in ſeveral vegetables a certain quantity of oil is ſuperabundant to their conſtitution, is often lodged in diſtinct reſervoirs, and does not enter into the compoſition of their other principles: in moſt vegetables, again, another quantity of oil is combined, and makes a conſtituent part of their principles. Of this laſt we formerly ſpoke in our analyſis of vegetables by fire; and it is the former we mean to conſider, under the three following heads.

Groſs oils abound chiefly in the kernels of fruits and in certain ſeeds; from which they are commonly extracted by expreſſion, and hence are diſtinguiſhed by the name of *Expreſſed Oils.* They are contained alſo in all the parts of all vegetables that have been examined, and may be forced out by vehemence of fire; but here their qualities are much altered in the proceſs by which they are extracted or diſcovered, as we have ſeen under the foregoing head.

Theſe oils, in their common ſtate, are not diſſoluble either in vinous ſpirits or in water, though by means of certain intermedia they may be united both with the one and the other. Thus a ſkilful interpoſition of ſugar renders them miſcible with water into what are called lohochs and oily draughts: by the intervention of gum or mucilage they unite with water into a milky fluid: by alkaline ſalts they are changed into a ſoap, which is miſcible both with water and ſpirituous liquors, and is perfectly diſſolved by the latter into an uniform tranſparent fluid. The addition of any acid to the ſoapy ſolution abſorbs the alkaline ſalt; and the oil, which of courſe ſeparates, is found to have undergone this remarkable change, that it now diſſolves without any intermedium in pure ſpirit of wine.

Expreſſed oils, expoſed to the cold, loſe greatly of their fluidity: ſome of them, in a ſmall degree of cold, congeal into a conſiſtent maſs. Kept for ſome time in a warm air, they become thin and highly rancid: their ſoft, lubricating, and relaxing quality is changed into a ſharp acrimonious one: and in this ſtate, inſtead of allaying, they occaſion irritation; inſtead of obtunding corroſive humours, they corrode and inflame. Theſe oils are liable to the ſame noxious alteration while contained in the original ſubject: hence ariſes the rancidity which the oily ſeeds and kernels, as almonds and thoſe called the cold ſeeds, are ſo liable to contract in keeping. Nevertheleſs on triturating theſe ſeeds or kernels with water, the oil, by the intervention of the other matter of the ſubject, unites with the water into an emulſion or milky liquor, which, inſtead of growing rancid, turns ſour on ſtanding.

It appears then that ſome kind of fermentation goes on in the progreſs of oils to the rancid ſtate; and it would ſeem from ſome experiments by Mr Macquer, that an acid is evolved, which renders them more ſoluble in ſpirit of wine than before.

In the heat of boiling water, and even in a degree of heat as much exceeding this as the heat of boiling water does that of the human body, theſe oils ſuffer little diſſipation of their parts. In a greater heat they emit a pungent vapour, ſeemingly of the acid kind; and when ſuffered to grow cold again, they are found to have acquired a greater degree of conſiſtence than they had before, together with an acrid taſte. In a

heat

heat approaching to ignition, in close vessels, the greatest part of the oil arises in an empyreumatic state, a black coal remaining behind.

2. Gross sebaceous Matter.

From the kernels of some fruits, as that of the chocolate nut, we obtain, instead of a fluid oil, a substance of a butyraceous consistence; and from others, as the nutmeg, a solid matter as firm as tallow. These concretes are most commodiously extracted by boiling the substance in water: the sebaceous matter, liquefied by the heat, separates and arises to the surface, and resumes its proper consistence as the liquor cools.

The substances of this class have the same general properties with expressed oils, but are less disposed to become rancid in keeping than most of the common fluid oils. It is supposed by the chemists, that their thick consistence is owing to a larger admixture of an acid principle: for, in their resolution by fire, they yield a vapour more sensibly acid than the fluid oils; and fluid oils, by the admixture of concentrated acids, are reduced to a thick or solid mass.

3. Essential Oils.

Essential oils are obtained only from those vegetables, or parts of vegetables, that are considerably odorous. They are the direct principle, in which the odour, and oftentimes the warmth, pungency, and other active powers of the subject, reside; whence their name of *Essences* or *Essential Oils*.

Essential oils are secreted fluids; and are often lodged in one part of the plant, whilst the rest are entirely void of them. Sometimes they are found in separate spaces or receptacles; and there, too, visible by the naked eye: thus, in the rind of lemons, oranges, citrons, and many others, there are placed every where small pellucid vesicles, which, by expressing the peel near to the flame of a candle, squirt out a quantity of essential oil, forming a stream of lambent flame; hence, too, an oleosaccharum may be made, by rubbing the exterior surface of these peels with a piece of lump-sugar, which at once tears open these vesicles, and absorbs their contained oil.

Essential oils unite with rectified spirit of wine, and compose with it one homogeneous transparent fluid; though some of them require for this purpose a much larger proportion of the spirit than others. The difference of their solubility perhaps depends on the quantity of disengaged acid; that being found by Mr Macquer not only to promote the solution of essential oils, but even of those of the unctuous kind. Water also, though it does not dissolve their whole substance, may be made to imbibe some portion of their more subtile matter, so as to become considerably impregnated with their flavour; by the admixture of sugar, gum, the yolk of an egg, or alkaline salts, they are made totally dissoluble in water. Digested with volatile alkali, they undergo various changes of colour, and some of the less odorous acquire considerable degrees of fragrance; whilst fixt alkali universally impairs their odour.

The specific gravity of most of these oils is less than that of water: some of them, however, are so heavy as to sink in water; and these varieties will be noticed when we come to their preparation.

In the heat of boiling water, these oils totally exhale; and on this principle

principle they are commonly extracted from ſubjects that contain them; for no other fluid, which naturally exiſts in vegetables, is exhalable by that degree of heat, excepting the aqueous moiſture, from which greateſt part of the oil is eaſily ſeparated. Some of theſe oils ariſe with a much leſs heat, a heat little greater than that in which water begins viſibly to evaporate. In their reſolution by a burning heat, they differ little from expreſſed oils.

Eſſential oils, expoſed for ſome time to a warm air, ſuffer an alteration very different from that which the expreſſed undergo. Inſtead of growing thin, rancid, and acrimonious, they gradually become thick, and at length harden into a ſolid brittle concrete; with a remarkable diminution of their volatility, fragrancy, pungency, and warm ſtimulating quality. In this ſtate, they are found to conſiſt of two kinds of matter; a fluid oil, volatile in the heat of boiling water, and nearly of the ſame quality with the original oil; and of a groſſer ſubſtance which remains behind, not exhalable without a burning heat, or ſuch as changes its nature, and reſolves it into an acid, an empyreumatic oil, and a black coal.

The admixture of a concentrated acid inſtantly produces, in eſſential oils, a change nearly ſimilar to that which time effects. In making theſe kinds of mixtures, the operator ought to be on his guard; for when a ſtrong acid, particularly that of nitre, is poured haſtily into an eſſential oil, a great heat and ebullition enſue, and often an exploſion happens, or the mixture burſts into flame. The union of expreſſed oils with acids is accompanied with much leſs conflict.

4. Concrete eſſential Oil.

Some vegetables, as roſes and elecampane root, inſtead of a fluid eſſential oil, yield a ſubſtance poſſeſſing the ſame general properties, but of a thick or ſebaceous conſiſtence. This ſubſtance appears to be of as great volatility, and ſubtility of parts, as the fluid oils: it equally exhales in the heat of boiling water, and concretes upon the ſurface of the collected vapour. The total exhalation of this matter, and its concreting again into its original conſiſtent ſtate, without any ſeparation of it into a fluid and a ſolid part, diſtinguiſhes it from eſſential oils that have been thickened or indurated by age or by acids.

5. Camphor.

Camphor is a ſolid concrete, obtained chiefly from the woody parts of certain Indian trees. It is volatile like eſſential oils, and ſoluble both in oils and inflammable ſpirits: it unites freely with water by the intervention of gum, but very ſparingly and imperfectly by the other intermedia that render oils miſcible with watery liquors. It differs from the ſebaceous as well as fluid eſſential oils, in ſuffering no ſenſible alteration from long keeping; in being totally exhalable, not only by the heat of boiling water, but in a warm air, without any change or ſeparation of its parts, the laſt particle that remains unexhaled appearing to be of the ſame nature with the original camphor: in its receiving no empyreumatic impreſſion, and ſuffering no reſolution, from any degree of fire to which it can be expoſed in cloſe veſſels, though readily combuſtible in the open air; in being diſſolved by concentrated acids into a liquid form; and in ſeveral other properties which it is needleſs to ſpecify in this place.

6. Reſin.

6. Resin.

Essential oils, indurated by age or acids, are called *Resins*. When the indurated mass has been exposed to the heat of boiling water, till its more subtile part, or the pure essential oil that remained in it, has exhaled, the gross matter left behind is likewise called resin. We find, in many vegetables, resins analagous both to one and the other of these concretes; some containing a subtile oil, separable by the heat of boiling water; others containing nothing that is capable of exhaling in that heat.

Resins in general dissolve in rectified spirit of wine, though some of them much more difficultly than others: it is chiefly by means of this dissolvent that they are extracted from the subjects in which they are contained. They dissolve also in oils both expressed and essential; and may be united with watery liquors by means of the same intermedia which render the fluid oils miscible with water. In a heat less than that of boiling water, they melt into an oily fluid; and in this state they may be incorporated one with another. In their resolution by fire, in close vessels, they yield a manifest acid, and a large quantity of empyreumatic oil.

7. Gum.

Gum differs from the foregoing substances in being uninflammable: for though it may be burnt to a coal, and thence to ashes, it never yields any flame. It differs remarkably also in the proportion of the principles into which it is resolved by fire; the quantity of empyreumatic oil being far less, and that of an acid far greater. In the heat of boiling water, it suffers no dissipation: nor does it liquefy like resins; but continues unchanged, till the heat be so far increased as to scorch or turn it to a coal.

By a little quantity of water, it is softened into a viscous adhesive mass, called mucilage: by a larger quantity it is dissolved into a fluid, which proves more or less glutinous according to the proportion of gum. It does not dissolve in vinous spirits, or in any kind of oil: nevertheless, when softened with water into a mucilage, it is easily miscible both with the fluid oils and with resins; which by this means become soluble in watery liquors along with the gum, and are thus excellently fitted for medicinal purposes.

This elegant method of uniting oils with aqueous liquors, which has been kept a secret in few hands, appears to have been known to Dr Grew. "I took (says he) oil of aniseeds, and pouring it upon *another* "*body*, I so ordered it, that it was thereby turned into a perfect milk-"white balsam or butter; by which means the oil became mingleable "with any vinous or watery liquor, easily and instantaneously dissolving "therein in the form of a milk. And note, this is done without the "least alteration of the smell, taste, nature, or operation of the said oil. "By somewhat the like means any other stillatitious oil may be transf-"formed into a milk-white butter, and in like manner be mingled with "water or any other liquor; which is of various use in medicine, and "what I find oftentimes very convenient and advantageous to be done." (*Grew of Mixture, chap.* v. *inst.* i. § 7.) This inquiry has lately been further prosecuted in the first volume of the Medical Observations published by a society of physicians in London; where various experiments are

are related, for rendering oils, both eſſential and expreſſed, and different unctuous and reſinous bodies, ſoluble in water by the mediation of gum. Mucilages have alſo been uſed for ſuſpending crude mercury, and ſome other ponderous and inſoluble ſubſtances: the mercury is by this means not a little divided; but it is found that the particles are very apt to run together or ſubſide, if a pretty conſtant agitation be not kept up.

As oily and reſinous ſubſtances are thus united to water by the means of gum, ſo gums may in like manner be united to ſpirit of wine by the intervention of reſins and eſſential oils; though the ſpirit does not take up near ſo much of the gum as water does of the oil or reſin.

Acid liquors, though they thicken pure oils, or render them conſiſtent, do not impede the diſſolution of gum, or of oils blended with gum. Alkaline ſalts, on the contrary, both fixt and volatile, though they render pure oils diſſoluble in water, prevent the ſolution of gum, and of mixtures of gum and oil. If any pure gum be diſſolved in water, the addition of any alkali will occaſion the gum to ſeparate, and fall to the bottom in a conſiſtent form; if any oily or reſinous body was previouſly blended with the gum, this alſo ſeparates, and either ſinks to the bottom, or riſes to the top, according to its gravity.

8. Gum-reſin.

By gum-reſin is underſtood a mixture of gum and reſin. Many vegetables contain mixtures of this kind, in which the component parts are ſo intimately united, with the interpoſition perhaps of ſome other matter, that the compound, in a pharmaceutical view, may be conſidered as a diſtinct kind of principle; the whole maſs diſſolving almoſt equally in aqueous and in ſpirituous liquors; and the ſolutions being not turbid or milky, like thoſe of the groſſer mixtures of gum and reſin, but perfectly tranſparent. Such is the aſtringent matter of biſtort-root, and the bitter matter of gentian. It were to be wiſhed that we had ſome particular name for this kind of matter; as the term Gum-reſin is appropriated to the groſſer mixtures, in which the gummy and reſinous part are but looſely joined, and eaſy ſeparable from each other.

We ſhall afterwards find that it will be convenient to imitate this natural combination by art. As the effects of medicines very generally depend on their ſolubility in the ſtomach, it is often neceſſary to bring their more inſoluble parts, ſuch as reſinous and oily matters, into the ſtate of gum-reſin: this is done, as we have mentioned in the former article, by the mediation of mucilage. By this management theſe matters become much more ſoluble in the ſtomach; and the liquor thus prepared is called an emulſion, from its whitiſh colour, reſembling that of milk.

9. Saline Matter.

Of the ſaline juices of vegetables there are different kinds, which have hitherto been but little examined: the ſweet and the acid ones are the moſt plentiful, and the beſt known.

There have lately, however, been diſcovered a conſiderable variety of ſalts in different vegetables. The mild fixed alkali, which was formerly conſidered as a product of the fire, has been obtained from almoſt all plants by macerating them in acids; the vegetable alkali is the moſt common, but the mineral is found alſo in the marine plants. Beſides the fixed

fixed alkali, ſeveral other ſalts have been detected in different vegetables; ſuch as vitriolated tartar, common ſalt, Glauber's ſalt, nitre, febrifugal ſalt, and ſelenite. From ſome experiments, too, the volatile alkali has been ſuppoſed to exiſt ready formed in many plants of the cruciform or tetradynamian tribe.

It is, however, to be underſtood, that though ſome of theſe ſalts are really products of vegetation, yet others of them are not unfrequently adventitious, being imbibed from the ſoil without any change produced by the functions of the vegetable.

The juices of vegetables, expoſed to a heat equal to that of boiling water, ſuffer generally no other change than the evaporation of their watery moiſture; the ſaline matter remaining behind, with ſuch of the other not volatile parts as were blended with it in the juice. From many, after the exhalation of great part of the water, the ſaline matter gradually ſeparates in keeping, and concretes into little ſolid maſſes, leaving the other ſubſtances diſſolved or in a moiſt ſtate: from others, no means have yet been found of obtaining a pure concrete ſalt.

The ſalts more peculiarly native and eſſential to vegetables are the ſweet and the ſour: theſe two are frequently blended together in the ſame vegetable, and ſometimes paſs into each other at different ages of the plant. Of the four ſalts ſeveral kinds are known in pharmacy and in the arts; ſuch as thoſe of ſorrel, of lemons, oranges, citrons, &c. The ſaccharine ſalts are alſo obtained from a great number of vegetables; they may in general be eaſily diſcovered by their ſweet taſte: the ſugar-cane is the vegetable from which this ſaline matter is procured in greateſt quantity, and with moſt profit in commerce. For its medicinal and chemical properties we refer to the article SUGAR.

The ſweet and ſour ſalts above mentioned diſſolve not only in water, like other ſaline bodies, but many of them, particularly the ſweet, in rectified ſpirit alſo. The groſs oily and gummy matter, with which they are almoſt always accompanied in the ſubject, diſſolves freely along with them in water, but is by ſpirit in great meaſure left behind. Such heterogeneous matters as the ſpirit takes up, are almoſt completely retained by it, while the ſalt concretes; but of thoſe which water takes up, a conſiderable part always adheres to the ſalt. Hence eſſential ſalts, as they are called, prepared in the common manner from the watery juices of vegetables, are always found to partake largely of the other ſoluble principles of the ſubject; whilſt thoſe extracted by ſpirit of wine prove far more pure. By means of rectified ſpirit, ſome productions of this kind may be freed from their impurities; and perfect ſaccharine concretions obtained from many of our indigenous ſweets.

There is another kind of ſaline matter obtained from ſome reſinous bodies, particularly from benzoine, which is of a different nature from the foregoing, and ſuppoſed by ſome of the chemiſts to be a part of the eſſential oil of the reſin, coagulated by an acid, with the acid more predominant or more diſengaged, than in the other kinds of coagulated or indurated oils. Theſe concretes diſſolve both in water and in vinous ſpirits, though difficultly and ſparingly in both: they ſhow ſome marks of acidity, have a conſiderable ſhare of ſmell like that of the reſin they are obtained from,

exhale in a heat equal to that of boiling water, or a little greater, and prove inflammable in the fire.

10. Farina or Flour.

This substance has much of the nature of gum, but has more taste, is more fermentable, and much more nutritive. It abounds in very many vegetables, and is generally deposited in certain parts, seemingly for the purpose of its being more advantageously accommodated to their nourishment and growth. Several of the bulbous and other roots, such as those of potatoes, briony, those from which cassava is extracted, salep, and many others, contain a great deal of a white *fecule* resembling and really possessing the properties of farina. The plants of the leguminous tribe, such as peas and beans, are found also to abound with this matter. But the largest quantity of farina resides in grains, which are therefore called *farinaceous*. Of this kind are those of wheat, rye, barley, oats, rice, and other similar plants.

At first sight we would suppose that farina was one homogeneous substance: it is, however, found to be a compound of three different and separable parts. To illustrate this, we shall take for our example the farina of wheat, being the vegetable which affords it in greatest quantity, and in its most perfect state. To separate these different parts then, we form a paste with any quantity of flour and cold water; we suspend this paste in a bag of muslin or of such like cloth; we next let fall upon it a stream of cold water from some height, and the bag may now and then be very gently squeezed; the water in its descent carries down with it a very fine white powder, which is to be received along with the water into a vessel placed below the bag: The process is thus to be continued till no more of this white powder comes off, which is known by the water which passes through the bag ceasing to be of a milky colour. The process being now finished, the farina is found to be separated into three different substances: the glutinous or vegeto-animal part remains in the bag; the amylum or starch is deposited from the water which has been received into the vessel placed below the bag; and, lastly, a mucous matter is held dissolved in the same water from which the starch has been deposited: This mucous part may be brought to the consistence of honey, by evaporating the water in which it is kept in solution.

These several parts are found also to differ remarkably in their sensible and chemical properties. The vegeto-animal part is of a whitish grey colour, is a tenacious, ductile, and elastic matter, possessing somewhat of the texture of animal membranes. Distilled in a retort, it yields, like all animal matters, a true volatile alkali, and its coal affords no fixed alkali. It is not only insoluble, but even indissusible, in water; both which appear from its remaining in the bag after long-continued lotions. Like gums, it is insoluble in alcohol, in oils, or æther; but it is also insoluble in water, and yields on distillation products very different from those afforded by gums: It is therefore of an animal nature, and approaches perhaps nearer to the coagulable lymph of animal blood than to any other substance.

The fixed alkali, by means of heat, dissolves the gluten vegeto-animale, but

but when it is precipitated from this ſolution by means of acids, it is found to have loſt its elaſticity. The mineral acids, and eſpecially the nitrous, are alſo capable of diſſolving the vegeto-animal part of the farina.

The ſtarch, amylum, or the amylaceous matter, makes the principal part of the farina. As we before noticed, it is that fine powder depoſited from the water which has pervaded the entire farina: it is of a greyiſh white colour, but can be rendered much whiter by making it undergo a certain degree of fermentation. Starch is inſoluble in cold water; but in hot water it forms a tranſparent glue: hence the neceſſity of employing cold water in ſeparating it from the vegeto-animal part. Diſtilled in a retort, it yields an acid phlegm; and its coal affords, like other vegetables, a fixed alkaline ſalt. As ſtarch forms the greateſt part of the farina, it is probably the principal nutritive conſtituent in bread.

The mucous, or rather the mucoſo-ſaccharine matter, is only in very ſmall quantity in bread. This ſubſtance on diſtillation is found to exhibit the phenomena of ſugar. The uſe of this matter ſeems to be that of producing the vinous fermentation: and we may obſerve once for all that the preparation of good bread probably depends on a proper proportion of the three different parts above deſcribed; that is to ſay, that the vinous fermentation is promoted by the mucoſo-ſaccharine part, the acetous by the ſtarch, and the putrid by the gluten vegeto-animale. From different ſtates or degrees of theſe ſeveral ſtages of fermentation the qualities of good bread are very probably derived. What remains on this very important ſubject will be taken up when we come to ſpeak of wheat in the Materia Medica.

11. Of the Colouring Matter of Vegetables.

The colouring matter of vegetables ſeems to be of an intermediate nature between the gummy and reſinous parts. It is in many plants equally well extracted by water and by rectified ſpirit: it is alſo, however, procurable in the form of a *lake*, not at all ſoluble in either of theſe menſtrua. It would ſeem that the colouring matter, ſtrictly ſo called, has hitherto eluded the reſearches of chemiſts. It is only the *baſe* or *nidus*, in which the real colouring matter is embodied, that chemiſtry has as yet reached; and on the chemical properties of this *baſe*, colours are capable of being extracted by different menſtrua, and of being variouſly accommodated to the purpoſes of dyeing. The ſubſtance from which the colours of vegetables are *immediately* derived, is without doubt a very ſubtile body. Since plants are known to loſe their colour when excluded from the light, there is reaſon to think that the *immediately* colouring ſubſtance is primarily derived from the matter of the ſun, ſomehow elaborated by vegetable life.

Many of theſe dyes are evolved or variouſly modified by chemical operations. Thus a colouring matter is ſometimes depoſited in the form of a *fecula* during the putrefaction of the vegetable; in others it is evolved or changed by alum, by acids, or by alkali. We may alſo obſerve, that any part of the vegetable may be the baſe of the colouring matter. This appears from the ſolubility of the different dyes in their proper menſtrua; and in theſe ſolutions we have not been able to ſeparate the real colouring matter from the baſe in which it is inviſcated. After all, then,

we muſt conclude, that a full inveſtigation of this ſubject more properly belongs to the ſublimer parts of chemiſtry, than to the buſineſs we are at preſent engaged in.

The colouring drugs will be conſidered in their proper places.

In finiſhing our hiſtory of the vegetable kingdom, it only remains that we ſhould offer ſome

General Obſervations on the foregoing Principles.

1. Essential oils, as already obſerved, are obtainable only from a few vegetables: but groſs oil, reſin, gum, and ſaline matter, appear to be common in greater or leſs proportion to all; ſome abounding more with one, and others with another.

2. The ſeveral principles are in many caſes intimately combined; ſo as to be extracted together from the ſubject, by thoſe diſſolvents, in which ſome of them ſeparately could not be diſſolved. Hence watery infuſions and ſpirituous tinctures of a plant, contain, reſpectively, more than water or ſpirit is the proper diſſolvent of.

3. After a plant has been ſufficiently infuſed in water, all that ſpirit extracts from the reſiduum may be looked upon as conſiſting wholly of ſuch matter as directly belongs to the action of ſpirit. And, on the contrary, when ſpirit is applied firſt, all that water extracts afterwards may be looked upon as conſiſting only of that matter of which water is the direct diſſolvent.

4. If a vegetable ſubſtance, containing all the principles we have been ſpeaking of, be boiled in water, the eſſential oil, whether fluid or concrete, and the camphor, and volatile eſſential ſalt, will gradually exhale with the ſteam of the water, and may be collected by receiving the ſteam in proper veſſels placed beyond the action of the heat. The other principles not being volatile in this degree of heat, remain behind: the groſs oil and ſebaceous matter float on the top: the gummy and ſaline ſubſtance, and a part of the reſin, are diſſolved by the water, and may be obtained in a ſolid form by ſtraining the liquor, and expoſing it to a gentle heat till the water has exhaled. The reſt of the reſin, ſtill retained by the ſubject, may be extracted by ſpirit of wine, and ſeparated in its proper form by exhaling the ſpirit. On theſe foundations, moſt of the ſubſtances contained in vegetables may be extracted, and obtained in a pure ſtate, however much they may be compounded together in the ſubject.

5. Sometimes one or more of the principles is found naturally diſengaged from the others, lying in diſtinct receptacles within the ſubject, or extravaſated and accumulated on the ſurface. Thus, in the dried roots of angelica, cut longitudinally, the microſcope diſcovers veins of reſin. In the flower-cups of hypericum, and the leaves of the orange-tree, tranſparent points are diſtinguiſhed by the naked eye; which, on the firſt view, ſeem to be holes, but on a cloſer examination are found to be little veſicles filled with eſſential oil. In the bark of the fir, pine, larch, and ſome other trees, the oily receptacles are extremely numerous, and ſo copiouſly ſupplied with the oily and reſinous fluid, that they frequently burſt, eſpecially in the warm climates, and diſcharge their contents in great quantities. The acacia tree in Egypt, and the plum and cherry among ourſelves, yield almoſt pure gummy exudations. From a ſpecies of aſh is

secreted

ecreted the ſaline ſweet ſubſtance manna; and the only kind of ſugar with which the ancients were acquainted, appears to have been a natural exudation from the cane.

6. The foregoing principles are, as far as is known, all that naturally exiſt in vegetables; and all that art can extract from them, without ſuch operations as change their nature, and deſtroy their original qualities. In one or more of theſe principles, the colour, ſmell, taſte, and medicinal virtues, of the ſubject, are almoſt always found concentrated.

7. In ſome vegetables, the whole medicinal activity reſides in one principle. Thus, in ſweet almonds, the only medicinal principle is a groſs oil; in horſe-radiſh root, an eſſential oil; in jalap root, a reſin; in marſhmallow root, a gum; in the leaves of ſorrel, a ſaline acid ſubſtance.

8. Others have one kind of virtue reſiding in one principle, and another in different. Thus Peruvian bark has an aſtringent reſin, and a bitter gum; wormwood, a ſtrong-flavoured eſſential oil, and a bitter gum-reſin.

9. The groſs inſipid oils and ſebaceous matters, the ſimple inſipid gums, and the ſweet and acid ſaline ſubſtances, appear nearly to agree reſpectively among themſelves, in their medicinal qualities, as well as in their pharmaceutic properties.

10. But eſſential oils, reſins, and gum-reſins, differ much in different ſubjects. As eſſential oils are univerſally the principle of odour in vegetables, it is obvious that they muſt differ in this reſpect as much as the ſubjects from which they are obtained. Reſins frequently partake of the oil, and conſequently of the differences depending thereon; with this further diverſity, that the groſs reſinous part often contains other powers than thoſe which reſide in oils. Thus from wormwood a reſin may be prepared, containing not only the ſtrong ſmell and flavour, but likewiſe the whole bitterneſs of the herb; from which laſt quality the oil is entirely free. The bitter, aſtringent, purgative, and emetic virtue of vegetables, reſide generally in different ſorts of reſinous matter, either pure or blended with gummy and ſaline parts; of which kind of combinations there are many ſo intimate, that the component parts can ſcarcely be ſeparated from each other, the whole compound diſſolving almoſt equally in aqueous and ſpirituous menſtrua.

11. There are ſome ſubſtances alſo, which, from their being totally diſſoluble in water, and not in ſpirit, may be judged to be mere gums; but which, nevertheleſs, poſſeſs virtues never to be found in the ſimple gums. Such are the aſtringent gum called *acacia*, and the purgative gum extracted from aloes.

12. It is ſuppoſed that vegetables contain certain ſubtile principles or preſiding ſpirits, different in different plants, of too great tenuity to be collected in their pure ſtate, and of which oils, gums, and reſins are only the matrices or vehicles. This inquiry is foreign to the purpoſes of pharmacy, which is concerned only about groſſer and more ſenſible objects. When we obtain from an odoriferous plant an eſſential oil, containing in a ſmall compaſs the whole fragrance of a large quantity of the ſubject, our intentions are equally anſwered, whether the ſubſtance of the oil be the direct odorous matter, or whether it has diffuſed through it a fragrant principle more ſubtile than itſelf. And when this oil, in long keeping, loſes its odour, and becomes a reſin, it is equal in regard to the preſent con-

conſiderations, whether the effect happens from the avolation of a ſubtile principle, or from a change produced in the ſubſtance of the oil itſelf.

SECT. II.

ANIMALS.

FROM the hiſtory we have already given of the vegetable kingdom, our details on animal ſubſtances may, in many particulars, be conſiderably abridged All animals are fed on vegetables, either directly or by the intervention of other animals. No part of their ſubſtance is derived from any other ſource except water. The ſmall quantity of ſalt uſed by man and ſome other animals, is only neceſſary as a ſeaſoning or ſtimulus to the ſtomach. As the animal then is derived from the vegetable matter, we accordingly find that the former is capable of being reſolved into the ſame principles as thoſe of the latter. Thus, by repeated diſtillations, we obtain from animal ſubſtances, water, oil, air, an eaſily deſtructible ſalt, and charcoal. Theſe ſecondary principles are by farther proceſſes at length reſoluble into the ſame proximate principles which we found in vegetables, viz. water, air, earth, and the principle of inflammability. But though the principles of vegetable and animal ſubſtances are at bottom the ſame, yet theſe principles are combined in a very different manner. It is exceedingly rare that animal ſubſtances are capable of the vinous or acetous fermentations; and the putrefactive, into which they run remarkably faſt, is alſo different in ſome particulars from the putrefaction of vegetables; the eſcape of the phlogiſton in the form of light is more evident, and the ſmell is much more offenſive, in the putrefaction of animal than of vegetable ſubſtances. The putrefaction of urine is indeed accompanied with a peculiar fetor, by no means ſo intolerable as that of other animal matters: this we ſuppoſe to be owing to the pungency derived to the effluvia from the volatile alkali, and alſo from the urine containing leſs inflammable matter than the blood and many other fluids. When analiſed by a deſtructive heat, animals afford alſo products very different from thoſe of vegetables: the empyreumatic oil has a particular, and much more fetid odour; and the volatile ſalt, inſtead of being an acid, as it is in moſt vegetables, is found to be in animals a volatile alkali. Chemiſts have indeed ſpoken of an acid procurable from animal ſubſtances; and indeed certain parts of animal bodies are found to yield a ſalt of this kind; but it by no means holds with animal ſubſtances in general; and though the proofs to the contrary were even concluſive, it is confeſſedly in ſuch ſmall quantity as not to deſerve any particular regard. In ſome animals, however, an acid exiſts, uncombined and ready formed in their bodies. This is particularly manifeſt in ſome inſects, eſpecially ants, from which an acid reſembling the acetous has been procured by boiling them in water. The ſolid parts of animal bodies, as the muſcles, teguments, tendons, cartilages, and even the bones, when boiled with water, give a gelatinous matter or *glue* reſembling the vegetable gums, but much more adheſive. We muſt, however, except the horny parts and the hair, which ſeem to be little ſoluble either in water or in the liquors of the ſtomach. The acids, the alkalies, and quicklime, are alſo found to be powerful ſolvents of animal matters.

matters. It is from the ſolid parts that the greateſt quantity of volatile alkali is obtained; it ariſes along with a very fetid empyreumatic oil, from which it is in ſome meaſure ſeparated by repeated rectifications. This ſalt is partly in a fluid, and partly in a concrete ſtate; and from its having been anciently prepared in greateſt quantity from the horns of the hart, it has been called *ſalt* or *ſpirit of hartſhorn*. Volatile alkali is, however, procurable from all animals, and from almoſt every part of animal bodies. Though we are ſometimes able to procure fixed alkali from an animal cinder, yet it is probable that this ſalt did not make any part of the living animal, but rather proceeded from the introduction of ſome ſaline matter, incapable of being aſſimilated by the functions of the living creature.

In ſpeaking of the fluid parts of animals, we ſhould firſt examine the general fluid, or blood, from whence the reſt are ſecreted. The blood, which at firſt ſight appears to be an homogeneous fluid, is compoſed of ſeveral parts, eaſily ſeparable from each other, and which the microſcope can even perceive in its uncoagulated ſtate. On allowing it to ſtand at reſt and be expoſed to the air, it ſeparates into what are called the *craſſamentum* and the *ſerum*. The craſſamentum, or cruor, chiefly conſiſts of the red globules, joined together by another ſubſtance, viz. the coagulable lymph: the chemical properties of theſe globules are not as yet underſtood; but it appears that it is in theſe that the greateſt quantity of the iron found in blood reſides. The ſerum is a yellowiſh ſub-viſcid liquor, having little ſenſible taſte or ſmell: at a heat of 160 of Farenheit, it is converted into a jelly. This coagulation of the ſerum is alſo owing to its containing a matter of the ſame nature with that in the craſſamentum, viz. the coagulable lymph: whatever, then, coagulates animal blood, produces that effect on this concreſcible part. Several cauſes, and many chemical ſubſtances, are capable of effecting this coagulation; ſuch as contact of air, heat, alcohol, mineral acids, and their combinations with earths, as alum. and ſome of the metallic ſalts. The more perfect neutral ſalts are found to prevent the coagulation, ſuch as common ſalt and nitre.

Of the fluids ſecreted from the blood, there are a great variety in men and other animals. The excrementitious and redundant fluids are thoſe which afford in general the greateſt quantity of volatile alkali and empyreumatic oil: there are alſo ſome of the ſecreted fluids, which on a chemical analyſis yield products in ſome degree peculiar to themſelves. Of this kind is the urine; which is found to contain in the greateſt abundance the noted ſalt formed from the phoſphoric acid and volatile alkali. The fat, too, has been ſaid to differ from the other animal matters, in yielding by diſtillation a ſtrong acid, but no volatile alkali. There is alſo much variety in the quantity and ſtate of the combination of the ſaline and other matters in different ſecreted fluids: but a fuller inveſtigation of this and other parts of the ſubject, we refer to the doctrines in Anatomy, Phyſiology, and Chemiſtry; with all which it is more immediately connected than with the Elements of Pharmacy.

Animal oils and fats, like the groſs oils of vegetables, are not of themſelves diſſoluble either in water or vinous ſpirits: but they may be united with water by the intervention of gum or mucilage; and moſt of them

may be changed into ſoap; and thus rendered miſcible with ſpirit, as well as water, by fixed alkaline ſalts.

The odorous matter of ſome odoriferous animal-ſubſtances, as muſk, civet, caſtor, is, like eſſential oil, ſoluble in ſpirit of wine, and volatile in the heat of boiling water. Carthuſer relates, that from caſtor an actual eſſential oil has been obtained in a very ſmall quantity, but of an exceedingly ſtrong diffuſive ſmell.

The veſicating matter of cantharides, and thoſe parts of ſundry animal-ſubſtances in which their peculiar taſtes reſides, are diſſolved by rectified ſpirit, and ſeem to have ſome analogy with reſins and gummy reſins.

The gelatinous principle of animals, like the gum of vegetables, diſſolves in water, but not in ſpirit or in oils: like gums alſo, it renders oils and fats miſcible with water into a milky liquor.

Some inſects, particularly the ant, are found to contain an acid juice, which approaches nearly to the nature of vegetable acids.

There are, however, ſundry animal juices which differ greatly, even in theſe general kinds of properties, from the correſponding ones of vegetables. Thus animal ſerum, which appears analogous to vegetable gummy juices, has this remarkable difference, that though it mingles uniformly with cold or warm water, yet on conſiderably heating the mixture, the animal-matter ſeparates from the watery fluid, and concretes into a ſolid maſs. Some have been apprehenſive, that the heat of the body, in ſome diſtempers, might riſe to ſuch a degree, as to produce this dangerous or mortal concretion of the ſerous humours: but the heat requiſite for this effect is greater than the human body appears capable of ſuſtaining, being nearly about the middle point between the greateſt human heat commonly obſerved and that of boiling water.

The ſoft and fluid parts of animals are ſtrongly diſpoſed to run into putrefaction: they putrefy much ſooner than vegetable matters; and when corrupted, prove more offenſive.

This proceſs takes place, in ſome degree, in the bodies of living animals; as often as the juices ſtagnate long, or are prevented, by an obſtruction of the natural emunctories, from throwing off their more volatile and corruptable parts.

During putrefaction, a quantity of air is generated; all the humours become gradually thinner, and the fibrous parts more lax and tender. Hence the tympany, which ſucceeds the corruption of any of the viſcera, or the imprudent ſuppreſſion of dyſenteries by aſtringents; and the weakneſs and laxity of the veſſels obſervable in ſcurvies, &c.

The craſſamentum of human blood changes, by putrefaction, into a dark livid coloured liquor; a few drops of which tinge the ſerum of a tawny hue, like that of the ichor of ſores and dyſenteric fluxes, and of the white of the eye, the ſaliva, the ſerum of blood drawn from a vein, and that which oozes from a bliſter in deep ſcurvies and the advanced ſtate of malignant fevers.

The putrid craſſamentum changes a large quantity of recent urine to a flame-coloured water, ſo common in fevers and in the ſcurvy. This mixture, after ſtanding an hour or two, gathers a cloud reſembling what is ſeen in the crude water of acute diſtempers, with ſome oily matter on the ſurface like the ſcum which floats on ſcorbutic urine.

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The ſerum of blood depoſites, in putrefaction, a ſediment reſembling well-digeſted pus, and changes to a faint olive green. A ſerum ſo far putrefied as to become green, is perhaps never to be ſeen in the veſſels of living animals; but in dead bodies this ſerum is to be diſtinguiſhed by the green colour which the fleſh acquires in corrupting. In ſalted meats, this is commonly aſcribed to the brine, but erroneouſly; for that has no power of giving this colour, but only of qualifying the taſte, and in ſome degree the ill effects of corrupted aliments. In foul ulcers and other ſores, where the ſerum is left to ſtagnate long, the matter is likewiſe found of this colour, and is then always acrimonious.

The putrefaction of animal-ſubſtances is prevented or retarded by moſt ſaline matters, even by the fixed and volatile alkaline ſalts, which have generally been ſuppoſed to produce a contrary effect. Of all the ſalts that have been made trial of, ſea-ſalt ſeems to reſiſt putrefaction the leaſt: in ſmall quantities, it even accelerates the proceſs. The vegetable bitters, as chamomile-flowers, are much ſtronger antiſeptics, not only preſerving fleſh long uncorrupted, but likewiſe ſomewhat correcting it when putrid: the mineral acids have this laſt effect in a more remarkable degree. Vinous ſpirits, aromatic and warm ſubſtances, and the acrid plants, falſely called *alkaleſcent*, as ſcurvy-graſs and horſe-radiſh, are found alſo to reſiſt putrefaction. Sugar and camphor are found to be powerfully antiſeptic. Fixed air, or the aërial acid, is likewiſe thought to reſiſt putrefaction; but above all the vapours of nitrous acid, in the form of air (the nitrous air of Dr Prieſtley), is found to be the moſt effectual in preſerving animal bodies from corruption. The liſt of the ſeptics, or of thoſe ſubſtances that promote putrefaction, is very ſhort; and ſuch a property has only been diſcovered in calcareous earths and magneſia, and a very few ſalts, whoſe baſes are of theſe earths.

It is obſervable, that notwithſtanding the ſtrong tendency of animal matters to putrefaction, yet broths made from them, with the admixture of vegetables, inſtead of putrefying, turn ſour. Sir John Pringle has found, that when animal-fleſh in ſubſtance is beaten up with bread or other farinaceous vegetables, and a proper quantity of water, into the conſiſtence of a pap, this mixture likewiſe, kept in a heat equal to that of the human body, grows in a little time ſour; whilſt the vegetable matters, without the fleſh, ſuffer no ſuch change.

It was obſerved in the preceding ſection, that ſome few vegetables, in the reſolution of them by fire, diſcover ſome agreement in the matter with bodies of the animal-kingdom; yielding a volatile alkaline ſalt in conſiderable quantity, with little or nothing of the acid or fixed alkali, which the generality of vegetables afford. In animal-ſubſtances alſo, there are ſome exceptions to the general analyſis: from animal-fats, as we before obſerved, inſtead of a volatile alkali, an acid liquor is obtained; and their empyreumatic oil wants the peculiar offenſiveneſs of the other animal-oils.

SECT.

SECT. III.

MINERALS.

I. OILS *and* BITUMENS.

IN the mineral-kingdom is found a fluid oil called *naphtha* or *petroleum*, floating on the ſurface of waters, or iſſuing from clefts of rocks, particularly in the eaſtern countries, of a ſtrong ſmell, very different from that of vegetable or animal oils, limpid almoſt as water, highly inflammable, not ſoluble in ſpirit of wine, and more averſe to union with water than any other oils,

There are different ſorts of theſe mineral oils, more or leſs tinged, of a more or leſs agreeable, and a ſtronger or weaker ſmell. By the admixture of concentrated acids, which raiſe no great heat or conflict with them, they become thick, and at length conſiſtent; and in theſe ſtates are called *bitumens*.

Theſe thickened or concreted oils, like the correſponding products of the vegetable kingdom, are generally ſoluble in ſpirit of wine, but much more difficultly, more ſparingly, and for the moſt part only partially: they liquefy by heat, but require the heat to be conſiderably ſtronger. Their ſmells are various; but all of them, either in the natural ſtate, or when melted or ſet on fire, yield a peculiar kind of ſtrong ſcent, called from them *bituminous*.

The ſolid bitumens are, amber, jet, aſphaltum, or bitumen of Judea, and foſſil or pit-coal. All thoſe bitumens, when diſtilled, give out an odorous phlegm, or water, more or leſs coloured and ſaline; an acid, frequently in a concrete ſtate; an oil, at firſt light, and reſembling the native petrolea, but ſoon becoming heavier and thicker; and, laſtly, a quantity of volatile alkali is obtained: the reſiduum is a charry matter, differing in its appearances according to the nature of the bitumen which has been analyſed.

From the obſervations of ſeveral naturaliſts, it is probable that all bitumens are of vegetable and animal origin; that the circumſtances by which they differ from the reſinous and other oily matters of vegetables and animals, are the natural effects of time, or of an alteration produced on them by mineral acids; or perhaps they are the effect of both theſe cauſes combined. This opinion is the more probable, ſince bitumens, on a chemical analyſis, yield oil and volatile alkali; neither of which are found in any other minerals.

II. EARTHS.

THE little impropriety of joining the vegetable and animal earths to the mineral, muſt be overlooked for the ſake of bringing both under one ſynoptical view. Under the mineral earths are included ſtones; theſe being no other than earths in an indurated ſtate.—The different kinds of theſe bodies hitherto taken notice of, are the following.

I. *Earths ſoluble in the nitrous, marine, and vegetable acids, but not at all or exceeding ſparingly in the vitriolic acid. When previouſly diſſolved in other acids, they are precipitated by the addition of this laſt, which thus unites with*

with them into insipid, or nearly insipid concretes, not dissoluble in any liquor.

Of this kind are,

1. The mineral calcareous earth: *distinguished by its being convertible in a strong fire, without addition, into an acrimonious calx called quicklime.* This earth occurs in a variety of forms in the mineral kingdom. The fine soft chalk, the coarser lime-stones, the hard marbles, the transparent spars, the earthy matter contained in waters, and which separating from them, incrustates the sides of the caverns or hangs in isicles from the top, receiving from its different appearances different appellations. How strongly soever some of these bodies have been recommended for particular medicinal purposes, they are at bottom no other than different forms of this calcareous earth; simple pulverization depriving them of the superficial characters by which they were distinguished in the mass. Most of them contain generally a greater or less admixture of some of the indissoluble kinds of earth; which, however, affects their medicinal qualities no otherwise than by the addition which it makes to their bulk. Chalk appears to be one of the purest; and is therefore in general preferred. They all burn into a strong quicklime: in this state a part of them dissolves in water, which thus becomes impregnated with the astringent and lithoutriptic powers that have been erroneously ascribed to some of the earths in their natural state.

During the calcination of calcareous earths, a large quantity of elastic vapour is discharged: the absence of this fluid is the cause of the causticity of quicklime, and of its solubility in water in the form of lime-water. For a more full enquiry into this subject, see the articles FIXED AIR, LIME-WATER, and CAUSTIC LEY.

2. The animal calcareous earth: *burning into quicklime like the mineral.* Of this kind are oyster-shells, and all the marine shells that have been examined; though with some variation in the strength of the quicklime produced from them.

3. The earth of bones and horns: *not at all burning into quicklime.* This kind of earth is more difficult of solution in acids than either of the preceding. It is accompanied in the subjects with a quantity of gelatinous matter, which may be separated by long boiling in water, and more perfectly by burning in the open air. The earth may be extracted also from the bone or horn, though difficultly, by means of acids; whereas vegetables and the soft parts of animals yield their pure earth by burning only.

II. *Earths soluble with ease in the vitriolic as well as other acids, and yielding, in all other combinations therewith, saline concretes soluble in water.*

1. Magnesia alba: *composing with the vitriolic acid a bitter purgative salt.* This earth has not yet been found naturally in a pure state. It is obtained from the purging mineral waters and their salts; from the bitter liquor which remains after the crystallisation of sea-salt from sea-water: and from the fluid which remains uncrystallised in the putrefaction of some sorts of rough nitre. The ashes of vegetables appear to be nearly the same kind of earth.

2. Aluminous earth: *composing with the vitriolic acid a very astringent salt.* This earth also has not been found naturally pure. It is obtained from

from alum; which is no other than a combination of it with the vitriolic acid: it may likewise be extracted, by strong boiling in that acid, from clays and boles.

III. *Earths which by digesting in acids, either in the cold or in a moderate warmth, are not at all dissolved.*

1. Argillaceous earth: *becoming hard, or acquiring an additional hardness, in the fire.* Of this kind of earth there are several varieties, differing in some particular properties: as the purer *clays*, which when moistened with water form a very viscous mass, difficulty diffusible through a larger quantity of the fluid, and slowly subsiding from it; *boles*, less viscous, more readily miscible with water, and more readily subsiding; and *ochres*, which have little or nothing of the viscosity of the two foregoing, and are commonly impregnated with a yellow or red ferrugineous calx.

2. Crystalline earth: *naturally hard, so as to strike sparks with steel; becoming friable in a strong fire.* Of this kind are flints, crystals, &c. which appear to consist of one and the same earth, differing in the purity, hardness, and transparency of the mass.

3. Gypseous earth: *reducible by a gentle heat into a soft powder, which unites with water into a mass, somewhat viscous and tenacious while moist, but quickly drying and becoming hard. A greater heat deprives the powder of this property, without occasioning any other alteration.* Such are the transparent *selenites;* the fibrous stony masses improperly called *English talc;* and the granulated *gypsa*, or *plaster of Paris* stones. Though these bodies, however, have been commonly looked upon as mere earths, of a distinct kind from the rest, they appear, both from analytical and synthetical experiments, to be no other than combinations of the mineral calcareous earth with vitriolic acid.

4. Talky earth: *scarcely alterable by a vehement fire.* The masses of this earth are generally of a fibrous or leafy texture; more or less pellucid, bright or glittering; smooth and unctuous to the touch; too flexible and elastic to be easily pulverised; soft, so as to be cut with a knife. In these respects some of the gypseous earths nearly resemble them, but the difference is readily discovered by fire; a weak heat reducing the gypseous to powder, while the strongest makes no other alteration in the talky, than somewhat diminishing their flexibility, brightness, and unctuosity.

III. Metals.

Of metals, the next division of mineral bodies, the most obvious characters are, their peculiar bright aspect, perfect opacity, and great weight; the lightest of them is six, and the heaviest upwards of nineteen, times heavier than an equal bulk of water.

To understand the writers in chemistry, it is proper to be informed, that metals are subdivided into the *perfect*, the *imperfect*, and the *semi-metals*.

Those possessed of ductility and malleability, and which are not sensibly altered by very violent degrees of heat, are called *perfect metals*: Of these there are three; gold, silver, and platina. It is, however, probable, that the mark of their indestructibility by fire is only relative; and indeed modern chemists have been able, by a very intense degree of heat, to

to bring gold into the ſtate of a *calx*, or ſomething very nearly reſembling it.

Thoſe metallic ſubſtances which poſſeſs the diſtinctive properties of the perfect metals, but in a leſs degree, are called the *imperfect metals:* Theſe are, copper, iron, tin, lead.

Laſtly, thoſe bodies having the metallic characters in the moſt imperfect ſtate, that is to ſay, thoſe which have no ductility and the leaſt fixity in the fire, are diſtinguiſhed by the name of *ſemi-metals:* Theſe are, regulus of antimony, biſmuth, zinc, regulus of cobalt, nickel, and regulus of arſenic; which laſt might be rather conſidered as the boundary between the metallic and the ſaline bodies.

Mercury has been generally ranked in a claſs by itſelf.

All metallic bodies, when heated in cloſe veſſels, melt or *fuſe*. This *fuſion* takes place at different degrees of heat in different metals; and it does not appear that this proceſs produces any change in the metals, provided it be conducted in cloſe veſſels. Metals, expoſed to the combined action of air and fire, are converted into an earth-like ſubſtance called *calx:* by this proceſs, which we call *calcination*, the metal ſuffers remarkable changes. From the diſtinctive marks we have before given of the metallic bodies, it will be obvious, that the perfect metals are moſt ſlowly, the imperfect more quickly, and the ſemi-metals moſt eaſily and ſooneſt, affected in this operation. This earth-like powder, or *calx*, is found to poſſeſs no metallic aſpect, but is conſiderably heavier than the metal before its calcination: it has no longer any affinity with metallic bodies, nor even with the metal from which it has been produced.

Beſides this method of calcining metals by air and fire, they may likewiſe be brought into the ſtate of a calx, by diſſolving them in acids, from which they may be afterwards freed by evaporating the acid, or by adding to the ſolution an alkaline ſalt. Metals are alſo ſometimes dephlogiſticated by detonation with nitre. This change in their obvious properties is generally accompanied with a remarkable alteration in their medicinal virtues: thus quickſilver, which taken into the body in its crude ſtate and undivided, ſeems inactive; when calcined by fire, proves even in ſmall doſes a ſtrong emetic and cathartic, and in ſmaller ones, a powerful alterative in chronical diſorders; while regulus of antimony, on the contrary, is changed by the ſame treatment, from a high degree of virulence to a ſtate of inactivity.

Calces of mercury and arſenic exhale in a heat below ignition: thoſe of lead and biſmuth, in a red or low white heat, run into a tranſparent glaſs; the others are not at all vitreſcible, or not without extreme vehemence of fire. Both the calces and glaſſes recover their metallic form and qualities again by the ſkillful addition of any kind of inflammable ſubſtance that does not contain a mineral acid. This recovery of the metallic calces into the metallic form is called *reduction*. During this proceſs an elaſtic aërial fluid eſcapes, which is found in many inſtances to be very *pure air*.

Is the converſion of metals into calces owing to the diſcharge of phlogiſton, or to the abſorption of pure air? And is the reduction to be aſcribed to the abſorption of phlogiſton, or to the eſcape of pure air? And again, Is the calcination to be explained by the diſcharge of phlogiſton and conſequent precipitation of pure air? And is the reduction effected

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by the abſorption of phlogiſton, either furniſhed by inflammable bodies; or precipitated in conſequence of the diſcharge of pure air? On theſe queſtions there is much diſpute among modern chemiſts: We thought it only neceſſary to ſtate them here, as a full inquiry into the ſubject is by no means the province of pharmacy. We, however, think it prudent to retain the doctrine of Stahl: and we do this the more readily, that it has been followed in the former editions of this work; that it is abundantly clear in its illuſtration of the pharmaceutical proceſſes; and, laſtly, that perhaps it is not the moſt exceptionable. We ſhall not, however, reject any modern diſcovery which may ſerve to illuſtrate our ſubjects.

All metallic bodies diſſolve in acids; ſome only in particular acids, as ſilver and lead in the nitrous; ſome only in compoſitions of acids, as gold in a mixture of the nitrous and marine: and others, as iron and zinc, in all acids. Some likewiſe diſſolve in alkaline liquors, as copper; and others, as lead, in expreſſed oils. Fuſed with a compoſition of ſulphur and fixed alkaline ſalt, they are all, except zinc, made ſoluble in water.

All metallic ſubſtances, diſſolved in ſaline liquors, have powerful effects in the human body, though many of them appear in their pure ſtate to be inactive. Their activity is generally in proportion to the quantity of acid combined with them: Thus lead, which in its crude form has no ſenſible effect, when united with a ſmall portion of vegetable acid into ceruſs, diſcovers a low degree of the ſtyptic and malignant quality, which it ſo ſtrongly exerts when blended with a larger quantity of the ſame acid into what was called *ſaccharum ſaturni*, but now more properly *ſal plumbi*, or *plumbum acetatum:* and thus mercury, with a certain quantity of the marine acid, forms the violent corroſive ſublimate, which by diminiſhing the proportion of acid becomes the mild medicine called *mercurius dulcis*.

IV. Acids.

The ſalts of this order are very numerous; but as we are at preſent treating of *Minerals*, it is only therefore the *mineral* or *foſſil* acids we mean to ſpeak of in this place.

Theſe are diſtinguiſhed by the names of the concretes from which they have been principally extracted; the *vitriolic* from vitriol, the *nitrous* from nitre or ſaltpetre, and the *marine* or *muriatic* from common ſea-ſalt. The form they are commonly in, is that of a watery fluid: They have all a remarkable attraction for water: they imbibe the humidity of the air with rapidity and the generation of heat. Although heat be produced by their union with water, yet when mixed with ice in a certain manner, they generate a prodigious degree of cold. Acids change the purple and blue colours of vegetables to a red: they reſiſt fermentation; and, laſtly, they impreſs that peculiar ſenſation on the tongue called *ſourneſs*, and which their name imports. But it is to be obſerved, that they are all highly corroſive, inſomuch as not to be ſafely touched, unleſs largely diluted with water, or united with ſuch ſubſtances as obtund or ſuppreſs their acidity. Mixed haſtily with vinous ſpirits, they raiſe a violent ebullition and heat, accompanied with a copious diſcharge of noxious fumes: a part of the acid unites intimately with the vinous ſpirit into a new compound, void of acidity, called *dulcified ſpirit*. It is obſervable, that the marine acid is much leſs diſpoſed to this union with ſpirit of wine than

than either of the other two: nevertheless, many of the compound salts resulting from the combination of earthy and metallic bodies with this acid, are soluble in that spirit, while those with the other acids are not. All these acids effervesce strongly with alkaline salts, both fixed and volatile, and form with them neutral salts; that is, such as discover no marks either of an acid or alkaline quality.

The nitrous and marine acids are obtained in the form of a thin liquor; the acid part being blended with a large proportion of water, without which it would be diffused into an incoercible vapour: the vitriolic stands in need of so much less water for its condensation as to assume commonly an oily consistence (whence it is called *oil of vitriol*), and in some circumstances even a solid one. Alkaline salts, and the soluble earths and metals, absorb from the acid liquors only the pure acid part; so that the water may now be evaporated by heat, and the compound salt left in a dry form.

From the coalition of the different acids with the three different alkalies, and with the several soluble earths and metallic bodies, result a variety of saline compounds; the principal of which will be particularised in the sequel of this work.

The vitriolic acid, in its concentrated liquid state, is much more ponderous than the other two; it emits no visible vapour in the heat of the atmosphere, but imbibes moisture therefrom, and increases in its weight: the nitrous and marine emit copious corrosive fumes, the nitrous yellowish red, and the marine white ones. If bottles containing the three acids be stopt with cork, the cork is found in a little time tinged black with the vitriolic, corroded into a yellow substance by the nitrous, and into a whitish one by the marine.

It is above laid down as a character of one of the classes of earths, that the vitriolic acid precipitates them when they are previously dissolved in any other acid: it is obvious, that on the same principle this particular acid may be distinguished from all others. This character serves not only for the acid in its pure state, but likewise for all its combinations that are soluble in water. If a solution of any compound salt, whose acid is the vitriolic, be added to a solution of chalk in any other acid, the vitriolic acid will part from the substance with which it was before combined, and join itself to the chalk, forming therewith a compound; which, being no longer dissoluble in the liquor, renders the whole milky for a time, and then gradually subsides.

This acid may be distinguished also, in compound salts, by another criterion not less strongly marked: If any salt containing it be mixed with powdered charcoal, and the mixture exposed in a close vessel to a moderately strong fire, the acid will unite with the directly inflammable part of the charcoal, and compose therewith a genuine sulphur. Common brimstone is no other than a combination of the vitriolic acid with a small proportion of inflammable matter. With any kind of inflammable matter which is not volatile in close vessels, as the coal of vegetables, of animals, or of bitumens, this acid composes always the same identical sulphur.

The nitrous acid also, whatever kind of body it be combined with, is both distinguished and extricated therefrom by means of any inflammable substance brought to a state of ignition. If the subject be mixed with

with a little powdered charcoal and made red-hot, a deflagration or fulmination enſues; that is, a bright flame with a hiſſing noiſe; and the inflammable matter and the acid being thus conſumed or diſſipated together, there remains only the ſubſtance which was before combined with the acid, and the ſmall quantity of aſhes afforded by the coal.

Theſe properties of the nitrous acid deflagrating with inflammable ſubſtances, and of the vitriolic forming ſulphur with them, ſerve not only as criteria of the reſpective acids in the various forms and diſguiſes, but likewiſe for diſcovering inflammable matter in bodies, when its quantity is too ſmall to be ſenſible on other trials.

All theſe acids will be more particularly examined when we come to treat of each of them apart. There are, however, a few other mineral acids which are of importance to be known: theſe are *aqua regia; acid of borax; ſparry acid*; and, laſtly, *fixed air*, which has of late been called *aërial acid* or *acid* of *chalk*.

Aqua regia has been generally prepared by a mixture of certain proportions of the nitrous and muriatic acids. It is of little avail in pharmacy, whether we conſider it as a diſtinct acid, or only as a modification of the muriatic. It has been found, that the muriatic acid, when diſtilled with *manganeſe* (a peculiar foſſile ſubſtance, ſhowing a remarkable attraction to phlogiſton), ſuffers a change which renders it capable of diſſolving gold and platina. Whether this change be produced by the acid acquiring a redundance of pure air, or by its being deprived of phlogiſton, is not our buſineſs to decide. This experiment, however, renders it probable, that the nitrous acid in the common aqua regia, is only ſubſervient to accompliſhing the ſame change in the muriatic acid, which is produced by diſtilling that acid with manganeſe.

As aqua regia has been only uſed in the nicer operations in chemiſtry, and in the art of aſſaying, we think it unneceſſary to ſay more of it in this place.

The *acid of borax*, or *ſedative ſalt of Homberg*, may be extracted from borax, a neutral ſalt, with the baſe of mineral alkali. It has alſo been found native in the waters of ſeveral lakes in Tuſcany. It is a light, cryſtalliſed concrete ſalt: its taſte is ſenſibly acid: it is difficultly ſoluble in water; but the ſolution changes blue vegetable colours to a red. With vitreſcent earths it fuſes into a white glaſs: it unites with the other alkalies, with magneſia, and with quicklime. The ſalts reſulting from theſe combinations are very imperfectly known. The ſalt has been called *ſedative*, from its ſuppoſed virtues as an anodyne and refrigerant remedy; but modern phyſicians have very little faith in this once celebrated drug.

The *ſparry acid* is ſo called, from its being extracted from a foſſil called *ſparry fluor*, or *vitreous ſpar*. It is not yet determined whether it be a diſtinct acid; and as it has not yet been employed for any purpoſe in pharmacy, we think it would be improper to attempt any farther account of it here.

Beſides the acids above mentioned, there have alſo been diſcovered acids ſeemingly of a particular nature, in amber, in arſenic, and in black-lead: but as theſe have not hitherto been applied to any uſe in pharmacy, they cannot properly have a place in this work.

We

We now come to the laſt, but perhaps the moſt generally diffuſed, acid in nature: this is the aërial acid, or

Fixed Air.

In our pharmaceutical hiſtory of this body, we ſhall only make uſe of the two names, *fixed air* and *aërial acid*, being thoſe moſt generally uſed, and which in our opinion are moſt applicable to our own ſubject. Fixed air is a permanently elaſtic fluid, being only *fixed* when in a ſtate of combination with calcareous earth or other ſubſtances from which it may be extricated. It has received many different names, according to the ſubſtances from which it is diſengaged, and the different opinions concerning its nature; it is the *gas ſilveſtre* of Helmont, the *fixed air* of Dr Black, the *acid of chalk*, *calcareous gas*, *mephitic gas*, *mephitic acid*, and *aërial acid*, of many modern chemiſts. In accommodating our account of it to the purpoſes of pharmacy, it is moſt convenient to conſider it in the light of an acid. The aërial acid, then, may be extricated by heat, or by other acids, from all calcareous earths; that is, from all thoſe earths which by calcination are converted into quicklime; ſuch as chalk, marble, limeſtone, ſea-ſhells, &c. It is likewiſe extricated from mild, fixed, and volatile alkalies, and from magneſia alba. Thus, if the vitriolic, or almoſt any other acid, be added to any quantity of calcareous earth or mild alkali, a briſk effervescence immediately enſues; the fixed air, or aërial acid, is diſcharged in bubbles; and the other acid takes its place. If this proceſs be conducted with an apparatus to be afterwards deſcribed, the aërial acid, now ſeparated from the calcareous earth, may be received and preſerved in cloſe veſſels. When thus diſengaged, it aſſumes its real character, viz. that of a *permanently elaſtic fluid.* Fixed air is alſo ſeparated in great quantity during the vinous fermentation of vegetable matters. When a calcareous earth is deprived of this acid by heat, it is converted into the cauſtic ſubſtance, *quicklime.* When alkalies, fixed or volatile, are deprived by any means of their aërial acid, they are rendered much more cauſtic, incapable of cryſtalliſation, or of effervescing with other acids. They are alſo in this *deaërated* ſtate much more powerful in diſſolving other bodies. By recombining this acid to the quicklime, the calcined magneſia, or to the alkali, any of which had been deprived of it, theſe ſubſtances again aſſume their former weight and properties. Theſe bodies, then, when combined with aërial acid, are called *mild;* as *mild calcareous earth*, *mild alkali*, &c.: and when deprived of this acid, they are called *cauſtic;* as *cauſtic calcareous earths*, *cauſtic alkali*, &c.: but as magneſia is not rendered cauſtic by calcination, there would perhaps be leſs danger in calling them *aërated* and *deaërated.* The aërial acid is more diſpoſed to unite with cauſtic calcareous earth (quicklime) than with any other ſubſtance; next to that, its attraction ſtands for fixed alkali; then with magneſia; and, laſtly, with volatile alkali. We ſhall afterwards find that theſe relative powers of the different ſubſtances to unite with this acid, lay the foundation of many important proceſſes in pharmacy.

When we pour a ſmall quantity of the aërial acid into lime-water, the liquor inſtantly aſſumes a white colour, and the lime gradually precipitates, leaving the water clear and taſteleſs: the lime in this experiment has abſorbed the acid, and has therefore become *mild* or *aërated* earth. The aërial acid is capable of being abſorbed by water; and the water

thus impregnated, precipitates lime in lime-water: but if a certain larger quantity of this impregnated water be added, the lime is redissolved, and the liquor recovers its transparency. Water impregnated with aërial acid is capable of dissolving iron; and in this way are formed native and artificial chalybeate waters. Zinc is also soluble in the same liquor. This acid is easily expelled from the water by removing the pressure of the atmosphere, by boiling, and even by time alone, if the vessel be not kept close shut. Fixed air extinguishes flame, vegetable and animal life, and ought therefore to be cautiously managed: like other acids, it changes the blue colours of vegetables to a red, and communicates an acidulous taste to the water impregnated with it. The attraction of the aërial acid, even to quicklime, is but feeble; as we know of no other acids whatever that are not able to disengage it.

From these several facts, it will appear obvious, that *mild* or *effervescing alkalies*, whether fixed or volatile, are really neutral salts, compounded of the aërial acid and pure alkali: like other acids, it unites with these bodies, diminishes their causticity, and effects their crystallisation. In speaking, therefore, of *pure alkali*, we ought to confine ourselves to those in the *caustic* or *deaërated* state; or, in other words, to those which are deprived of their fixed air or aërial acid, with which they formed a compound salt. Many other properties of this acid might be mentioned, but we have now noticed all those which we thought were concerned in the business of pharmacy. We shall have occasion to recur to the subject when we come to the preparation of several compound drugs.

Let us next take a view of what passes in the combinations of acids with different substances.

If a fixt alkaline salt be united with a vegetable acid, as that of vinegar, into a neutral salt, on adding to this compound some marine acid, the acetous acid will be disengaged, so as to exhale totally in a moderate heat, leaving the marine in possession of the alkali: the addition of the nitrous will in like manner dispossess the marine, which now arises in its proper white fumes, though without such an addition it could not be extricated from the alkali by any degree of heat: on the addition of the vitriolic acid, the nitrous gives way in its turn, exhaling in red refumes, and leaving only the vitriolic acid and the alkali united together.

Again, if any metallic body be dissolved in an acid, the addition of any earthy body that is dissoluble in that acid will precipitate the metal: a volatile alkaline salt will in like manner precipitate the earth: and a fixt alkali will dislodge the volatile; which last being readily exhalable by heat, the remaining salt will be the same as if the acid and fixt alkali had been joined together at first, without the intervention of any of the other bodies.

The power in bodies on which these various transpositions and combinations depend, is called by the chemists *affinity* or *elective attraction*; a term, like the Newtonian *attraction*, designed to express not the cause, but the effect When an acid spontaneously quits a metal to unite with an alkali, they say *it has a greater affinity* or *attraction* to the alkali than to the metal: and when, conversively, they say it has a greater affinity to fixt alkali than to those of the volatile kind, they mean only that it will unite

unite with the fixt in preference to the volatile; and that if previouſly united with a volatile alkali, it will forſake this for a fixt one.

The doctrine of the affinities of bodies is of very extenſive uſe in the chemical pharmacy: many of the officinal proceſſes, as we ſhall ſee hereafter, are founded on it: ſeveral of the preparations turn out very different from what would be expected by a perſon unacquainted with theſe properties of bodies; and ſeveral of them, if, from an error in the proceſs, or other cauſes, they prove unfit for the uſe intended, may be rendered applicable to other purpoſes, by ſuch tranſpoſitions of their component parts as are pointed out by the knowledge of their affinities.

We ſhall here therefore ſubjoin a table of the principal affinities obſerved in pharmaceutical operations, formed chiefly on that of Mr Geoffroy (which was publiſhed in the Memoirs of the French Academy for the year 1718), with ſuch corrections and additions as later experiments have furniſhed.

The table is thus to be underſtood. The ſubſtance printed in capitals, on the top of each ſeries, has the greateſt affinity with that immediately under it, a leſs affinity with the next, and ſo on to the end of the ſeries: that is, if any of the remote bodies has been combined with the top one, the addition of any of the intermediate bodies will diſunite them; the intermediate body uniting with the uppermoſt body of the ſeries, and throwing out the remote one. Thus in the firſt ſeries of the affinities of water, a fixt alkali being placed between the water and inflammable ſpirit, it is to be concluded, that wherever water and ſpirit are mixed together, the addition of any fixt alkaline ſalt will abſorb the water, and occaſion the pure ſpirit to be ſeparated. Where ſeveral ſubſtances are expreſſed in one ſeries, it is to be underſtood, that any one of thoſe bodies which are neareſt to the uppermoſt, will in like manner diſengage from it any one of thoſe which are more remote.

1 WATER.

Fixt alkaline ſalt,
Inflammable ſpirit.

2. WATER.

Inflammable ſpirit,
Volatile alkaline ſalt.

3. WATER.

Inflammable ſpirit,
Sundry compound ſalts.

4. INFLAMMABLE SPIRIT.

Water,
Oils and Reſins.

5. VITRIOLIC ACID.

Inflammable principle,
Fixt alkaline ſalts,
Calcareous earths calcined,
Volatile alkaline ſalts,
Calcareous earths uncalcined,
Zinc and Iron,
Copper,
Silver.

6. NITROUS ACID.

Inflammable principle,
Fixt alkaline ſalts,
Calcareous earths calcined,
Volatile alkaline ſalts,
Calcareous earths uncalcined,
Zinc,
Iron,
Copper,
Lead.
Mercury,
Silver,
Camphor.

7. MARINE ACID.

Fixt alkaline ſalts,
Calcareous earths calcined,
Volatile alkaline ſalts,
Calcareous earths uncalcined,
Zinc,
Iron,
Tin,
Regulus of antimony,
Copper,
Lead,
Silver,
Mercury.

8. ACETOUS ACID.

Iron,
Copper.

9. ALKALINE SALTS.

Vitriolic acid,
Nitrous acid,
Marine acid,
Vinegar,
Tartar,
Aërial acid,
Oils and Sulphur.

10. SOLUBLE EARTHS.

Vitriolic acid,
Nitrous acid,
Marine acid.

11. INFLAMMABLE PRINCIPLE.

Nitrous acid,
Vitriolic acid,
Metallic ſubſtances,
Fixt alkaline ſalts.

12. SULPHUR.

Fixt alkali and Quicklime,
Iron,
Copper,
Lead,
Silver,
Regulus of Antimony,
Mercury,
Arſenic.

13. GOLD.

Etherea ſpirit,
Acids.

14. MERCURY.

Marine acid,

Vitriolic

Vitriolic acid,
Nitrous acid.

15. Lead.

Vitriolic acid,
Marine acid,
Nitrous acid,
Vinegar,
Oils.

16. Silver.

Marine acid,
Vitriolic acid,
Nitrous acid.

17. Copper.

Vitriolic acid,
Marine acid,
Nitrous acid.

18. Iron.

Vitriolic acid,
Marine acid,
Nitrous acid,
Aerial acid.

19. Regulus of Antimony.

Vitriolic acid,
Nitrous acid,
Marine acid.

We think it may be useful to insert here another Table of single elective attractions, formed from a later and more complete knowledge of the subject. It is taken from Dr Webster's Syllabus; and as it principally concerns those bodies employed in pharmacy, we think it peculiarly adapted for this work. We have, however, delivered it in the common nomenclature of the art. Dr Webster's method is more short, and may be seen in the Syllabus alluded to.

TABLE OF ATTRACTIONS.

By WATER.

Vitriolic acid, Nitrous acid, Muriatic acid.	Tartarous acid.	Vinegar.	Acid of Borax, or Sedative Salt.
Terra ponderosa, Vegetable alkali, Mineral alkali, Lime, Magnesia, Volatile alkali, Clay, Zinc, Iron, Lead, Tin, Copper, Antimony, Mercury, Silver, Water, Alcohol, Phlogiston.	Lime, Terra ponderosa, Magnesia, Vegetable alkali, &c.		Lime, Terra ponderosa, Magnesia, Vegetable alkali, &c.

By HEAT.

Phlogiston, Terra ponderosa, &c. Magnesia, Metallic substances, Volatile alkali, Clay.			

Table

Table *of* Attractions *continued.*

By WATER.

Fixed Air, or Aërial Acid.	Vegetable Alkali, Mineral Alkali, Volatile Alkali, Terra Ponderosa,	Lime.	Magnesia, Clay.
Terra ponderosa, Lime, Vegetable alkali, &c. Alcohol, Essential oil, Unctuous oil.	Vitriolic acid, Nitrous acid, Muriatic acid, Tartarous acid, Vinegar, Acid of borax, Fixed air, Unctuous oils, Brimstone, Metallic substances, Water.	Vitriolic acid, Tartarous acid, Nitrous acid, Muriatic acid, &c.	

By HEAT.

	Acid of borax. Vitriolic acid, &c.		

TABLE *of* ATTRACTIONS *continued.*

BY WATER.

Phlogiſton.	Brimſtone.	Hepar Sulphuris.	Alcohol.
Nitrous acid, Vitriolic acid, Marine acid dephlogiſticated by manganeſe, Silver, Mercury, Antimony, Copper, Tin, Lead, Iron, Zinc, Water.	Lead, Tin, Silver, Mercury, Antimony, Iron, Fixed alkali, Volatile alkali, Terra ponderoſa, Lime, Magneſia, Unctuous oils, Eſſential oils, Dulcified ſpirit of vitriol, Alcohol.	Silver, Mercury, Antimony, Copper, Tin, Lead, Iron, Alcohol, Water.	Water, Dulcified ſpirit of vitriol, Eſſential oils, Volatile alkali, Fixed alkali, Hepar ſulphuris, Brimſtone.

TABLE

TABLE *of* ATTRACTIONS *continued.*

BY WATER.

Dulcified Spirit of Vitriol.	Essential oils.	Unctuous Oils.	Zinc calcined.
Alcohol, Essential oils, Unctuous oils, Water, Brimstone.	Dulcified spirit of vitriol, Alcohol, Unctuous oils, Water, Brimstone.	Dulcified spirit of vitriol, Essential oils, Fixed alkali, Volatile alkali, Brimstone.	Vitriolic acid, Muriatic acid, Nitrous acid, Tartarous acid, Vinegar, Acid of borax, Fixed air.

TABLE

TABLE *of* ATTRACTIONS *continued.*

BY WATER.

Iron.	Lead.	Tin.	Copper.
Tartarous acid, Vitriolic acid, &c.	Vitriolic acid, Tartarous acid, Muriatic acid, &c. Fixed alkali, Unctuous oils.		Tartarous acid, Muriatic acid, Vitriolic acid, Nitrous acid, &c. Fixed alkali, Volatile alkali, Unctuous oils.

TABLE

TABLE *of* ATTRACTIONS *continued.*

BY WATER.

Antimony.	Mercury.	Silver.	Water.
Muriatic acid, Vitriolic acid, &c.	Muriatic acid, Vitriolic acid, Tartarous acid, Nitrous acid, &c.	Muriatic acid, Vitriolic acid, &c.	Vegetable alkali, Mineral alkali, Volatile alkali, Alcohol.

BESIDES these cases of single elective attraction, there are also cases of what is called *double elective attraction.* These compose a table, in all the cases of which there are two compounds decomposed, and two new ones produced in their stead. We shall take for our example the first case in our table: If a plate of iron be put into a solution of vitriol of copper, the acid of the vitriol quits the copper and seizes upon the iron, whilst the phlogiston of the iron attaches itself to the calx of the copper. We have now, then, a vitriol of iron and metallic copper; that is to say, instead of vitriol of copper and a plate of iron, we have now a plate of copper and a vitriol of iron. As all chemical compositions and decompositions depend on these single or double elective attractions, we shall, for the sake of those more advanced in the study of chemistry, here subjoin a Table of Double Elective Attractions, extracted from the Syllabus of Dr Wester: But as his terms may appear difficult to beginners, we have illustrated the several cases by a single familiar example from each division.

Cases

Caſes of Double *Elective Attraction.*

By WATER.

1. Phlogiſticated iron with Vitriolated copper,	Give	1. Phlogiſticated copper and Vitriolated iron.
2. Acidated earth or metal with Aërated alkali,		2. Acidated alkali and Aërated earth or metal.
3. Acidated volatile alkali with Aërated fixed alkali or earth,		3. Acidated fixed alkali or earth and Aërated volatile alkali.
4. Vitriolated alkali, magneſia, or clay, with Nitrated, ſalited, or acetated lime,		4. Vitriolated lime and Nitrated, ſalited, or acetated alkali, magneſia, or clay.
5. Vitriolated or ſalited alkali or earth with Nitrated or acetated lead, mercury, or ſilver,		5. Vitriolated or ſalited lead, mercury, or ſilver, and Nitrated or acetated alkali or earth.
6. Vitriolated, nitrated, or acetated alkali, earth, or metal, with Salited ſilver,		6. Vitriolated, nitrated, or acetated ſilver, and Salited alkali, earth, or metal.
7. Vitriolated vegetable alkali with Salited lime, lead, or ſilver,		7. Vitriolated lime, lead, or ſilver, and Salited vegetable alkali.
8. Tartariſed or acetated vegetable alkali with Nitrated mercury,		8. Tartariſed or acetated mercury and Nitrated vegetable alkali.

By HEAT.

1. Vitriolated volatile alkali with Nitrated, ſalited, or acetated fixed alkali,	Give	1. Vitriolated fixed alkali and Nitrated, ſalited, or acetated volatile alkali.
2. Vitriolated, nitrated, or ſalited volatile alkali, with Acetated flint, alkali, or lime,		2. Vitriolated, nitrated, or ſalited fixed alkali, or lime, and Acetated volatile alkali.
3. Vitriolated mercury with Salited mineral alkali,		3. Vitriolated mineral alkali and Salited mercury.
4. Salited mercury with Sulphurated antimony,		4. Salited antimony and Sulphurated mercury.

Fa-

Familiar Examples of a single Case in each of the opposite Divisions.

BY WATER.

1. Iron in its metallic state with Vitriol of copper,	Give	1. Copper in its metallic state and Vitriol of iron.
2. Epsom salt with Mild vegetable alkali,		2. Vitriolated tartar and Common magnesia.
3. Vitriolic ammoniac with Mild mineral alkali,		3. Glauber's salt and Mild volatile alkali.
4. Vitriolated tartar with Nitrous selenite,		4. Vitriolic selenite and Saltpetre.
5. Vitriolated tartar with Mercurial nitre,		5. Vitriol of mercury and Saltpetre.
6. Saltpetre with Luna cornea,		6. Lunar caustic and Cubic nitre.
7. Vitriolated tartar with Luna cornea,		7. Vitriol of silver and Febrifugal salt.
8. Regenerated tartar with Mercurial nitre,		8. Acetous mercurial salt and Saltpetre.

BY HEAT.

1. Vitriolic ammoniac with Common salt,	Give	1. Common sal ammoniac and Glauber's salt.
2. Vitriolic ammoniac with Regenerated tartar,		2. Acetous ammoniacal salt and Vitriolated tartar.
3. Vitriol of mercury with Common salt,		3. Glauber's salt and Sublimate corrosive mercury.
4. Crude antimony with Sublimate corrosive mercury,		4. Butter of antimony and Factitious cinnabar.

CHAP.

CHAPTER II.

Of the Pharmaceutical Apparatus.

ONE of the principal parts of the pharmaceutic apparatus consists in contrivances for containing and applying fire, and for directing and regulating its power. Of these contrivances, called *furnaces*, there are different kinds, according to the conveniency of the place, and the particular purposes they are intended to answer. We shall here endeavour to give a general idea of their structure, and of the principles on which they are built.

FURNACES.

THE most simple furnace is the common stove, otherwise called the furnace for OPEN FIRE. This is usually made of an iron hoop, five or six inches deep; with a grate or some iron bars across the bottom, for supporting the fuel. It either stands upon feet, so as to be moveable from place to place; or is fixt in brickwork. In this last case, a cavity is left under the grate, for receiving the ashes that drop through it; and an aperture or door, in the forepart of this ash-pit, serves both for allowing the ashes to be occasionally raked out, and for admitting air to pass up through the fuel. This furnace is designed for such operations as require only a moderate heat; as infusion, decoction, and the evaporation of liquids. The vessel, containing the subject matter, is supported over the fire by a trevet. Fig: 1.

A deeper hoop or body, cylindrical, parallelopipedal, widening upwards, elliptical, or of other figures; formed of, or lined with, such materials as are capable of sustaining a strong fire; with a grate and ash-pit beneath, as in the preceding; and communicating at the top with a perpendicular pipe, or chimney; makes a WIND FURNACE. Fig. 2.

The greater the perpendicular height of the chimney, the greater will be the draught of air through the furnace, and the more intensely will the fire burn; provided the width of the chimney is sufficient to allow a free passage to all the air that the furnace can receive through the grate; for which purpose, the area of the aperture of the chimney should be nearly equal to the area of the interstices of the grate.

Hence, where the chimney consists of moveable pipes, made to sit upon each other at the ends, so that the length can be occasionally increased or diminished, the vehemence of the fire will be increased or diminished in the same proportion.

In furnaces whose chimney is fixed, the same advantage may be procured on another principle. As the intensity of the fire depends wholly upon the quantity of air successively passing through and animating the burning fuel, it is obvious, that the most vehement fire may be suppressed or restrained at pleasure, by more or less closing either the ash-pit door by which the air is admitted, or the chimney by which it passes off; and that

that the fire may be more or less raised again, by more or less opening those passages. A moveable plate, or REGISTER, in any convenient part of the chimney, affords commodious means of varying the width of the passage, and consequently of regulating the heat. This is most conveniently accomplished by keeping the ash-pit door entirely shut, and regulating the heat by a range of holes in a damping plate; each hole is provided with a proper pin, whereby we may shut it at pleasure. These holes may be made to bear a certain proportion to each other; the smallest being considered as one, the next to it in size must have twice the opening, the next to that double of the second, &c.; and so on to the number of seven or eight; and by combining these holes variously together, we can admit any quantity of air from 1 to 128; as 1. 2. 4. 8. 16. 32. 64. 128. See Fig. 7. and 8.

THERE are two general kinds of these wind-furnaces; one, with the chimney on the top, over the middle of the furnace, (fig. 2.); the other, with the chimney on one side, and the mouth clear, (fig. 3.)

In the first, either the upper part of the furnace is contracted to such an aperture, that the chimney may sit upon it; or it is covered with an arched dome, or with a flat plate, having a like aperture in the middle. As in this disposition of the chimney, the inside of the furnace cannot be come at from above, a door is made in the side, a little above the grate, for supplying fuel, inspecting the matter in the fire, &c. Fig. 2.

For performing FUSIONS in this furnace, the crucible, or melting vessel, is placed immediately among the fuel, with a slip of brick, or some other like support, between it and the grate, to keep the cold air, which enters underneath, from striking on its bottom.

When designed as a REVERBERATORY, that is for distillation in long necks or coated glass retorts, two iron bars are placed across, above the fire, for supporting the vessel, whose neck comes out at an aperture made for that purpose in the side. This aperture should be made in the side opposite to that in which is the door above mentioned; or at least so remote from it, that the receiver, fitted on the neck of the distilling vessel without the furnace, may not lie in the operator's way when he wants to stir the fire or throw in fresh fuel. Fig. 4.

The other kind of wind-furnace communicates, by an aperture in its back part near the top, either with an upright pipe of its own, or with the chimney of the room; in which last case, all other passages into the chimney must be closed up. Here the mouth of the furnace serves for a door, which may be occasionally covered with a plate or tile. Of this kind is the furnace most commonly used for fusion in a crucible. Fig. 3.

THIS last construction, by leaving the mouth of the furnace clear, affords the conveniency of letting into it a boiling or evaporating pan, a copper still, an iron pot for distilling hartshorn, an iron sand-pot, or other like vessels, of such a size that they may be supported on the furnace by their rims. The mouth being thus occupied by the vessels, a door must be made in the side for supplying and stirring the fuel.

When a furnace of this kind is designed only for a *sand-bath*, it is most commodious to have the sand placed on a long iron plate, furnished with a ledge of freestone or brick-work at each side. The mouth of the furnace

is

is to be clofely covered by one end of this plate; and the canal by which the furnace communicates with its chimney, is to be lengthened and carried along under the plate, the plate forming the upper fide of the canal. In this kind of fand-bath, digeftions, &c. requiring different degrees of heat, may be carried on at once; for the heat decreafes gradually from the end over the furnace to the other. Fig. 5.

When large veffels, as *ftills* and iron-pots for diftilling hartfhorn and aquafortis, are fixed in furnaces, a confiderable part of the bottom of the veffel is commonly made to reft upon folid brick-work.

The large ftill, whofe bottom is narrow in proportion to its height, and whofe weight, when charged with liquor, requires great part of it to be thus fupported, expofes but a fmall furface to the action of the fire underneath. To make up for this difadvantage, the heat, which rifes at the further end of a long narrow grate, is conveyed all round the fides of the veffel by a fpiral canal, which communicates at top with a common chimney.

The pots for diftilling hartfhorn and aquafortis in the large way, have part of their great weight borne up by three ftrong pins or trunions at equal diftances round the pot towards the middle reaching into a brick-work: fo that lefs fupport being neceffary underneath, a greater furface of the wide bottom lies expofed to the immediate action of the fire.

If a furnace, communicating with its chimney by a lateral canal, as in the fand-furnace above mentioned, be carried to a confiderable height above the part where this canal enters it, and if it be filled with fuel to the top, and clofely covered, the fuel will burn no higher than up to the upper fide of the canal through which the air paffes off; and in proportion as this lower part of the fuel confumes, it will be fupplied by that above, which falls down in its place. Hence in this furnace, called an *athanor*, a conftant heat may be kept up for a confiderable length of time without attendance. Fig. 6.

The tower of the athanor, or that part which receives the fuel, is commonly made to widen a little downwards, that the coals may fall the more freely; but not fo much as that the part on fire at bottom may be too ftrongly preffed. A fmall aperture is made oppofite to the canal or flue, or a number of openings according to the fize of the furnace and the degree of heat required for fupplying the air, which is more conveniently admitted in this manner than through the grate, as the interftices of the grate are in time choaked up by the afhes.

This furnace is defigned only for heating bodies exterior to it. Its canal or flew, as in the fand-furnace already defcribed, paffes under a fand-bath or water-bath; at the farther end of which it rifes perpendicularly to fuch a height, as may occafion a fufficient draught of air through the fire.

The flue may be fo wide as to correfpond to the whole height of the fire-place. A regifter or fliding plate, placed between the flue and the furnace, enables us to increafe or diminifh this height, and confequently the quantity of fire, at pleafure. If the fpace beneath the flue be inclofed to the ground, the heat in this cavity will be confiderable enough to be applicable to fome ufeful purpofes.

With

PLATE I. Nº 1.

FIG. 1.

FIG. 2.

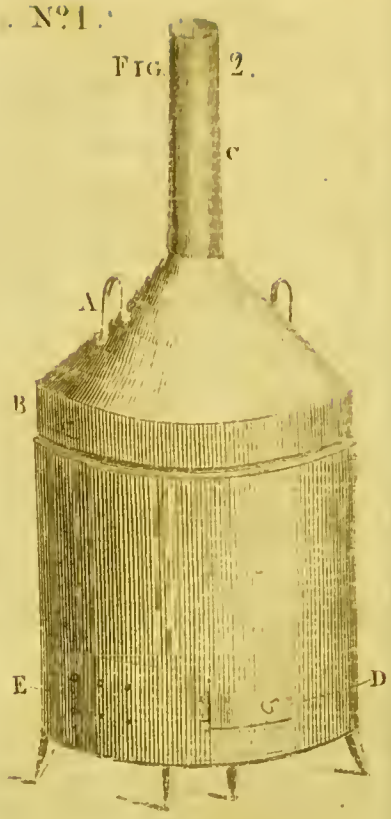


FIG. 1.

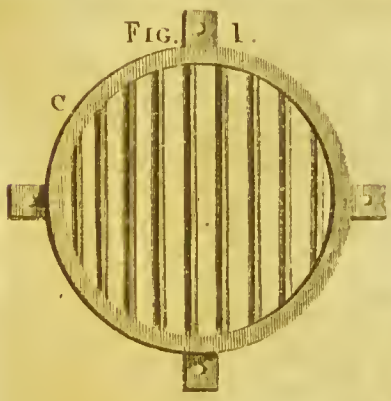


FIG. 4.

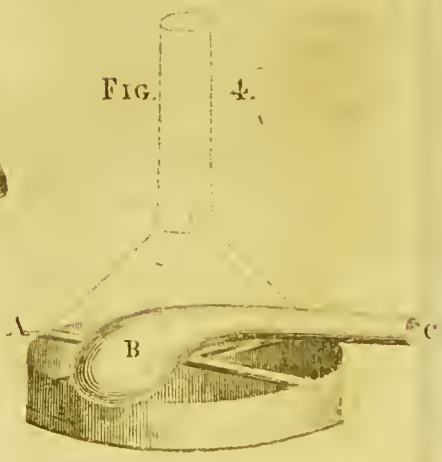


FIG. 3.

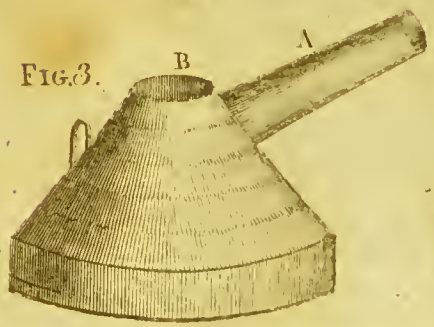


FIG. 5.

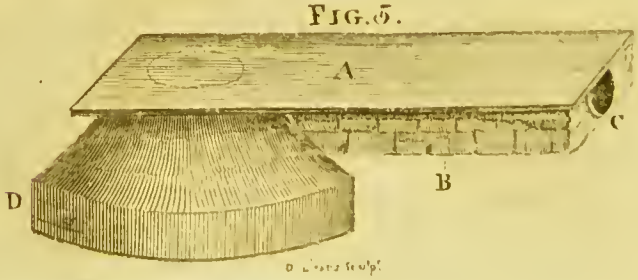


PLATE I. No. 2.

FIG. 6.

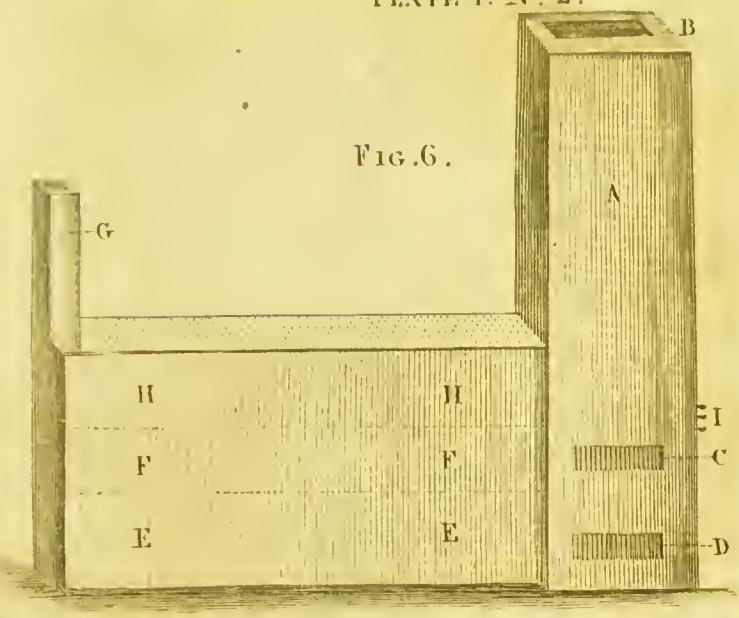


FIG. 7.

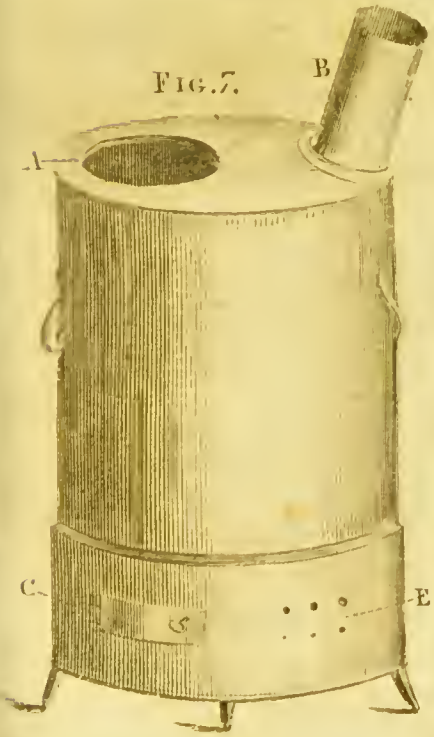


FIG. 8.

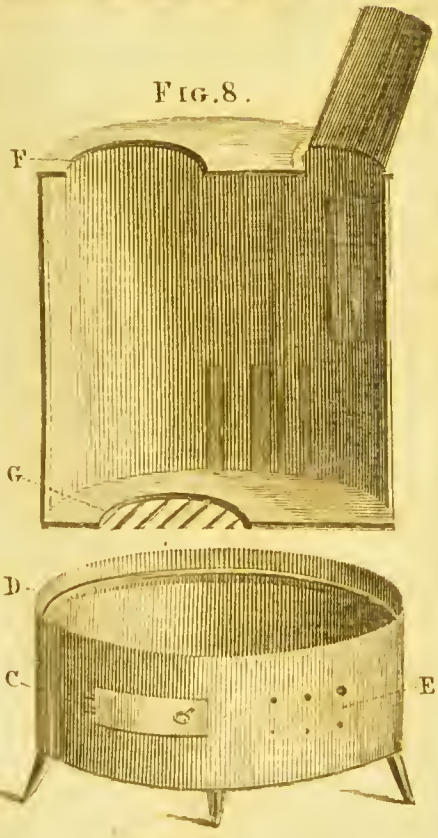


FIG. 9.

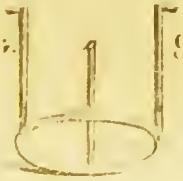


FIG. 10.

With regard to the materials of furnaces, the fixed ones are built of bricks, cemented together by fome good loam or clay. Any kind of loam or clayey compofition that is of a proper degree of tenacity, which, when made into a pafte with water and well-worked, does not ftick to the fingers, and which, when thoroughly dried, neither cracks nor melts in a vehement fire, is fit for this ufe. The purer and more tenacious clays require to have their tenacity leffened by an admixture of fand, or rather of the fame kind of clay burnt and grofsly powdered.

Smaller portable furnaces are made of ftrong iron or copper plates, lined to the thicknefs of an inch or more with the fame kind of clayey compofition; which for this ufe may be beaten with fome horfe-dung, chopped ftraw, or cut hair or tow.

Very commodious portable furnaces, for a bufinefs of moderate extent, may be formed alfo of the larger kind of the common black-lead melting-pots; by cutting a door at the bottom of the pot for the afh-pit, another above this for the fire-place, and introducing a circular iron grate of fuch a fize that it may reft between the two doors. A particular account of the method of preparing thefe furnaces for different ufes may be feen in the firft part of the Commercium Philofophico-technicum of Dr Lewis: They are, however, liable, by the repetition of violent heats, to a kind of calcination like inflammable fubftances; and the heat is not regulated with fufficient exactnefs.

In confideration of thefe inconveniences, Dr Black has contrived one of the moft fimple and elegant furnaces with which we are yet acquainted. Befides its durability, it will be found, though but one inftrument, to anfwer all the purpofes either of the practical or fpeculative chemift. Plate I. Fig. 7. and 8.

Explanation *of* Plate I.

Fig. 1. A common ftove which ftands on feet, and is moveable from place to place.

A, The body of the ftove.

B, Its feet.

C, The grate, which is that ufed in Dr Black's furnace, to be afterwards defcribed, and which we would recommend as the beft for every kind of portable furnace.

Fig. 2. A wind furnace.

A, Its dome.

B, The door for fupplying fuel, and placing the matter to be wrought on.

C, The chimney.

D, The door of the afh-pit.

E, The regifter, or damping-plate.

Fig. 3. The furnace moft commonly ufed for fufion in a crucible.

A, The beginning of its chimney from the back-part.

B, The mouth of the furnace, ferving as the door.

C, The regifter.

Fig. 4. Plan of a wind-furnace when defigned for a reverberatory.

A, The iron bars, which cannot well be ſhown, but may very eaſily be conceived.

B, A retort, ſupported on the bars.

C, The neck of the retort, coming out at an aperture of the furnace in the oppoſite ſide of the door B, Fig. 2.

Fig. 5. Plan of a wind-furnace when deſigned for a ſand-bath.

A, A long iron plate, one end of which cloſely ſhuts the mouth of the furnace.

B, A ledge of free-ſtone or brick-work.

C, The mouth of the canal.

D, The door for admitting fuel.

Regiſters, &c. as in the other furnaces,

Fig. 6. An athanor.

A, The tower, which has a cover at the top B when uſed.

C, The fire-place.

D, The aſh-pit.

E, E, An oblong frame of metal or ſtone connected to the tower A.

F, F, A chamber connected to the fire-place C, and continued up to the chimney G. Above this chamber the reſt of the frame is lined with iron.

H, H, Which being covered with ſand, and heated by the long range of fire in the chamber below, forms the ſand heat.

I, The regiſter.

Fig. 7. and 8. Dr Black's furnace. To render our deſcription of this inſtrument as ſimple as poſſible, let the reader ſuppoſe that the body of the common ſtove, fig. 1. is made of an oval form, and cloſed at each end by a thick iron plate. The upper plate or end of the furnace is perforated with two holes: one of theſe, A, is pretty large, and is often the mouth of the furnace; the other hole, B, is of an oval form, and is intended for ſcrewing down the vent upon.

The undermoſt plate or end of the furnace has only one circular hole, ſomewhat nearer to one end of the ellipſe than the other; hence a line paſſing through the centre of both circular holes has a little obliquity forwards: this is ſhown in fig. 8. which is a ſection of the body of the furnace, and exhibits one half of the upper and one half of the under nearly correſponding holes. The aſh-pit, fig. 7. and 8. C, is made of an elliptical form like the furnace; but is ſomewhat wider, ſo that the bottom of the furnace goes within the brim; and a little below there is a border, D, fig. 8. that receives the bottom of the furnace. Except the holes of the damping-plate E, fig. 7. and 8. the parts are all cloſe by means of a quantity of ſoft lute, upon which the body of the furnace is preſſed down, whereby the joining is made quite tight: for it is to be obſerved, that in this furnace the body, aſh-pit, vent, and grate, are all ſeparate pieces, as the furnace comes from the hands of the workman. The grate C, fig. 1. is made to apply to the outſide of the lower part or circular hole: it conſiſts of a ring ſet upon its edge, and bars likewiſe ſet on their edges. From the outer part of the ring proceed four pieces of iron, by means of which it can be ſcrewed on: it is thus kept out of the cavity of the furnace, and preſerved from the extremity of the heat,

 whereby

whereby it lasts much longer. The sides of the furnace are luted, to confine the heat, and to defend the iron from the action of it. The luting is so managed, that the inside of the furnace forms in some measure the figure of an inverted truncated cone.

We have thus combined the two figures 7. and 8. in order to describe as exactly as possible this furnace in its entire state; but to prevent confusion, it must be understood, that fig. 7. represents the body of the furnace with its bottom received within the ash-pit. As in this figure, then, we could not exhibit the bottom of the furnace, we have in fig. 8. supposed the body of the furnace to be cut down through its middle; whereby one half of the undermost hole, with a proportional part of the grate G applied to it, is exhibited along with, and nearly opposed to, one half of the upper hole F; the same hole which in fig. 7. is represented in its entire state by A. By fig. 8. then, the relation of the upper and under holes to one another is explained. It is also to be understood, that the ash-pit of fig. 8. is not, like the body of the furnace, divided in its middle, but is the ash-pit of fig. 7. only detached from the bottom of the furnace, in order to represent the border D, on which the bottom of the furnace is received.

Now to adapt this furnace to the different operations in chemistry, we may first observe, that for a melting furnace we need only provide a covering for the upper hole A, which in this case is made the door of the furnace. As this hole is immediately over the grate, it is very convenient for introducing and examining from time to time the substances that are to be acted upon. The cover for the door may be a flat and square tyle or brick. Dr Black usually employs a sort of lid made of plate-iron with a rim that contains a quantity of luting. The degree of heat will be greater in proportion as we heighten the vent B, and to the number of holes we open in the damping-plate E: by this means the furnace may be employed in most operations in the way of assaying; and though it does not admit of the introduction of a muffle, yet if a small piece of brick is placed upon its one end in the middle of the grate, and if large pieces of fuel are employed, so that the air may have free passage through it, metals may be assayed in this furnace without coming in contact with the fuel. It may therefore be employed in those operations for which a muffle is used; and in this way lead and sundry other metals may be brought to their proper calces.

When we wish to employ this furnace for those distillations requiring an intense heat, the earthen retort is to be suspended by means of an iron ring, having three branches standing up from it, fig. 9. This ring hangs down from the hole A about one half foot; so that the bottom of the retort rests upon the ring, and is immediately hung over the fuel. The opening between the mouth of the furnace A is filled up with broken crucibles or potsherds, and these are covered over with ashes, which transmit the heat very slowly. This furnace, then, answers for distillations performed with the naked fire. Dr Black has also had some of them provided with a hole in the side from which the neck of the retort issued; and in this way he has distilled the phosphorus of urine, which requires a very strong heat.

For distillations with retorts, performed in the sand-bath, there is an

iron-pot (fig. 10.) fitted for the opening of the furnace A, and this is employed as a ſand-pot. In theſe diſtillations the vent B becomes the door of the furnace, and it is more eaſily kept tight than when on the ſide. When it thus ſerves for the door, it may be covered with a lid of charcoal and clay.

This furnace anſwers very well too for the common ſtill; part of which may be made to enter the opening A, and hang over the fire. In this caſe, likewiſe, the vent B is the door of the furnace, by which freſh fuel is to be added: but in ordinary diſtillations it is never neceſſary to add freſh fuel; and even in the diſtillation of mercury, phoſphours of urine, and indeed during any proceſs whatever, the furnace generally contains ſufficient to finiſh the operation; ſo effectually is the heat preſerved from diſſipation, and the conſumption of the fuel is ſo very ſlow.

On the ſubject of furnaces, we cannot paſs over a very excellent one contrived by Dr Price. Though it is perhaps not neceſſary in the leſs operoſe proceſſes in pharmacy; yet we think an explanation of it may be entertaining and uſeful to many of our readers. The plate of this inſtrument is taken from an excellent drawing in the poſſeſſion of our ingenious friend Dr. Schwediauer.

Explanation *of* Plate II.

This furnace conſiſts of four ſeparate pieces: the body, or largeſt cylinder, divides in two at the part marked M. The outermoſt or largeſt furnace is made of the compoſition uſually employed in England for making the blue crucibles, but with a larger proportion of clay. It is ſtrongly braced with iron, as expreſſed in the drawing, with ſcrews to tighten the circular braces, which preſs on and ſecure the vertical bars. Theſe bars are terminated at each end by a clamp, which could not very well be expreſſed in the draught. The front of the furnace is alſo ſecured in the part moſt liable to ſuffer by the expanſion in heating with an iron plate.

In the lower diviſion is placed a tripod with a circular ring, which ſupports a grate which may occaſionally be changed. The tripod, by means of pieces of brick placed under the legs, may be raiſed according to the intended depth of the fire.

In the larger furnace, as thus deſcribed, may be placed a ſtill, ſand-pot, water-bath, evaporating veſſel, and the like. The fire is to be fed by the aperture B, and the ſmoke paſſes off by the flue C, whoſe dimenſions are ſhown by the dotted lines. The fire is eaſily regulated, by taking partly or entirely out the doors of the air draughts D and F.

A muffle may be placed and worked at B, this aperture being made of a proper ſhape for that purpoſe, the fuel being put in at top. The muffle being removed, a retort may be placed ſo as to have its neck paſſed through the ſame aperture; and if it be an earthen or coated glaſs one, may be worked in the naked fire, or with what is called a fire of ſuppreſſion.

This larger furnace may be alſo uſed as a wind-furnace, or melting-furnace; but is rather larger than common experiments require: it will, however, give a very ſtrong heat when employed for that purpoſe.

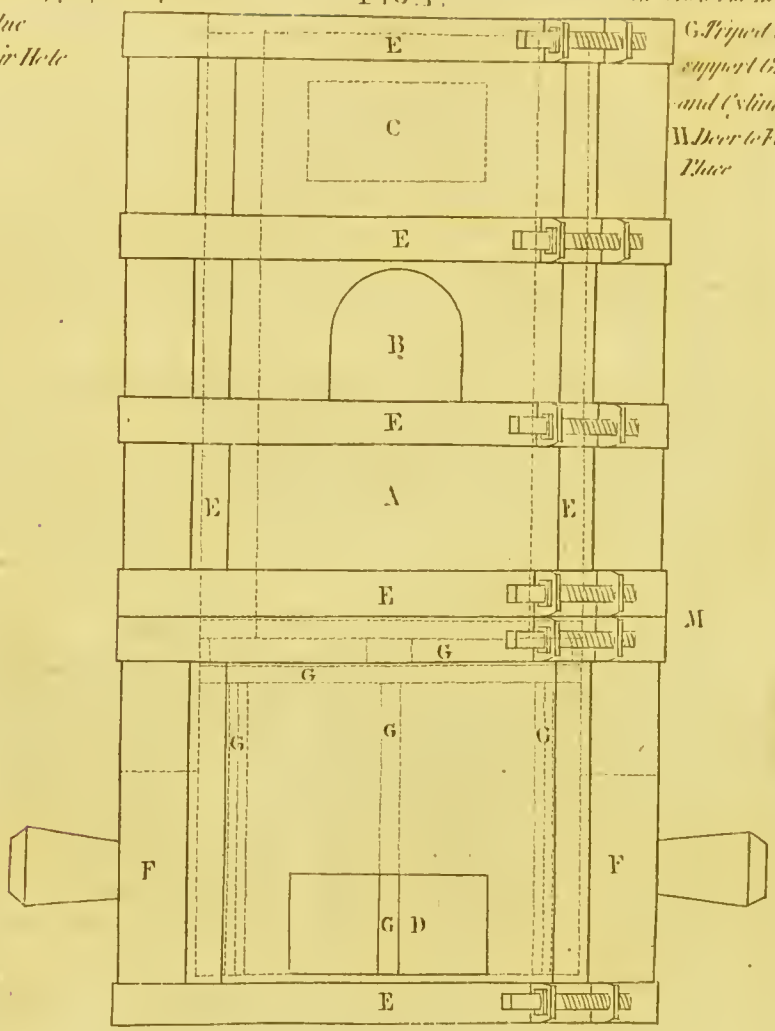
The

PLATE II. No. 1.

FIG. 1.

A. Body of Furnace
B. Opening for feeding Fire
C. Flue
D. Air Hole

E. Braces and Screws
F. Doors to Air Holes
G. Tripod to support Grate and Cylinder
H. Door to Fire Place



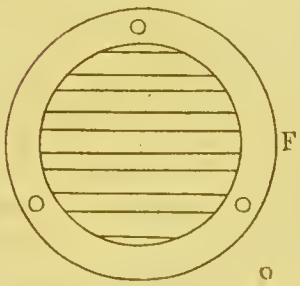


PLATE II. No. 2.

FIG. 2.

A. Thickness of outw.d Furnace
B. — of ye layer Cylinder
C. — of ye small Do.
D. Grate of large Cylinder
E. Braces
F. Doors to Air Holes

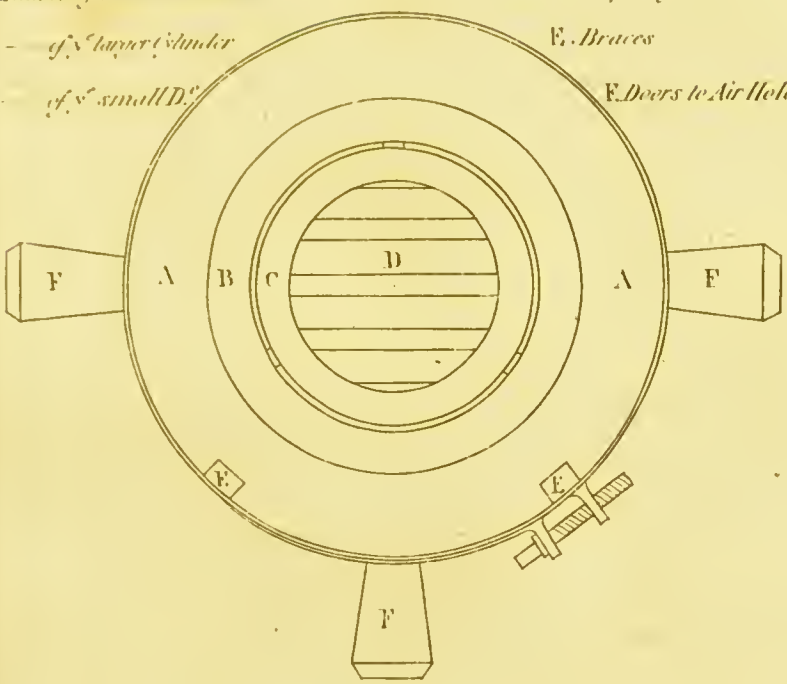
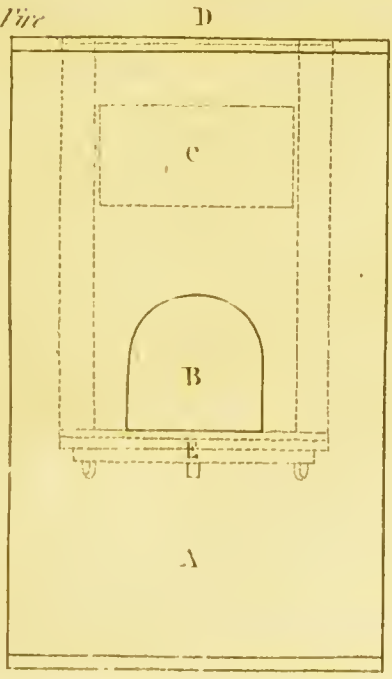


FIG. 3.

A. Body of the Cylinder
B. Opening for feeding Fire
C. Flue
D. Iron Braces
E. Grate of small Cylinder
F. Plan of Do.
G. Section of Do.



The cylinder marked A, fig. 3. is compoſed of a thick iron plate properly faſtened to two rings of iron connected by perpendicular bars, to which alſo the plate is ſtrongly rivetted.

It is ſtuck very full of nails, whoſe points projecting inwardly hold pieces of crucibles put between them edgewiſe; and theſe are covered with a luting of Windſor loam, Stourbridge clay, and ſome glaſs-grinders ſand, which partly vitrifying, renders the whole very compact.

This cylinder is put into the other, ſupported on the grate, and ſo placed that its apertures may correſpond with thoſe of the larger.

It thus affords a furnace in which a ſmaller ſand-pot retort, or muffle, may be worked, as in the former. It is a much more convenient wind-furnace, being fed at top, and the mouth of it covered with a kind of tile of the ſame materials with the outer furnace, which is to ſlide backwards and forwards over it. This method of charging a wind furnace is much preferable to that of putting in the crucibles and fuel thro' a door laterally.

In this furnace a very intenſe heat may be excited, which the air-draughts will afford the operator means of regulating to the greateſt exactneſs. By a proper choice of fuel, and ſome addreſs in managing the fire, the moſt refractory metals (platina *perhaps* excepted) may be fuſed in it. The regulus of manganeſe has been obtained in it; and ſteel melts without a-flux in a few minutes.

It ſhould be obſerved that the ſize of the flue is full large, and therefore it may be occaſionally cloſed, partly by pieces of brick of different ſizes according to the intended purpoſe.

The ſmaller cylinder, marked C in the plan (fig. 2.), is compoſed as that juſt deſcribed, but without the aperture for the muffle, though it would not be amiſs to have a ſimilar but ſmaller aperture in this alſo. It would thus work a little ſtill, ſand-pot, bath, &c but its flue ſhould be conſiderably narrowed with ſlips of brick or tiles.

As a melting-furnace it anſwers very well for any heat not much greater than that of melting caſt iron. It can with care be made to fuſe ſteel. It ſeems particularly adapted to experiments on ſmall quantities of metal, glaſs, or the like, as it requires little fuel, and yet gives a ſufficient heat.

The grate of this cylinder is faſtened to it, and it reſts on three ſmall projections on the outſide at top, by which it catches on the ring of the ſecond cylinder, and thus hangs in it.

It ſhould be obſerved, that when theſe cylinders are uſed, the upper juncture ſhould be pointed round and well cloſed with fire-lute; and it would be advantageous to ſprinkle in ſome charcoal-duſt, which will tend, both by excluding air and by other means, to prevent the ſcorification of the iron, and may perhaps be of ſome little uſe in retaining the heat, or at leaſt will hinder the cold air from coming up and chilling the ſides.

The chimney of this furnace is about eight feet high and nearly ſix inches ſquare in the area of its cavity; but, if circumſtances had permitted, it ſhould have been at leaſt twelve feet high and much thicker than it is. However, with theſe diſadvantages, it works very well; but would probably give a much fiercer heat, had the ſituation of it ſuffered the chimney to be more lofty and maſſive.

The conſtruction of this furnace requires a lateral flue. This ſhould be

ſtrongly braced with iron in the part near the furnace; for otherwiſe it will infallibly fall to pieces after the furnace has been uſed for a few times.

Let it be remarked, that opening all the air-draughts and unſtopping the flue does *not* produce the greateſt heat, for reaſons which thoſe who have ſtudied the principles of the excitation of fire can readily aſſign, but which cannot be briefly explained to others. Their ſize is, however, *proper* on other accounts.

It ſhould be further noticed, that if this kind of furnace be made on a ſmaller ſcale, it would require an enlargement of the flue and door to more than the proportional ſize; and that when made very ſmall, the third cylinder may of courſe be omitted; but the bracing ſtrongly, and luting, are indiſpenſably requiſite in furnaces of every dimenſion.

Baths.

Where a ſtrong degree of heat is requiſite, as in the fuſion of metals, &c. the veſſel containing the ſubject-matter is placed among the burning fuel, or immediately over it: this is called *operating in a naked fire.* Where a ſmaller heat is ſufficient, and the veſſel employed is either of glaſs, or of the more tender kinds of earthen ware, the ſand-bath or water-bath is uſed to defend the veſſel from the immediate action of the fire, and to render the heat leſs fluctuating.

Both theſe baths have their particular advantages and inconveniences. In water, the heat is equal through every part of the fluid: whereas in ſand, it varies in different parts of one perpendicular line, decreaſing from the bottom to the top. Water cannot be made to receive, or to tranſmit to veſſels immerſed in it, above a certain degree of heat, viz. that which is ſufficient to make it boil; and hence it ſecures effectually againſt any danger of an exceſs of heat in thoſe operations wherein the product would be injured by a heat greater than that of boiling water: but this advantage renders it uſeleſs for proceſſes which require a greater heat, and for which ſand or other ſolid intermedia are neceſſarily employed. There is this convenience alſo in the ſand-bath, that the heat may be readily diminiſhed or increaſed about any particular veſſel, by raiſing it higher out of the ſand or ſinking it deeper; that different ſubjects may be expoſed to different degrees of heat from one fire; and that it keeps the veſſels ſteady. The ſand made choice of ſhould be a large coarſe-grained kind, ſeparated from the finer parts by waſhing, and from little ſtones by the ſieve.

Coating *of* Glasses, Lutes.

Some proceſſes require to be performed with glaſs veſſels in a naked fire. For theſe purpoſes, veſſels made of the thinneſt glaſs ſhould be choſen; for theſe bear the fire, without cracking, much better than thoſe which are thicker, and in appearance ſtronger.

All glaſſes, or other veſſels that are apt to crack in the fire, muſt be cautiouſly nealed, that is, heated by ſlow degrees: and when the proceſs is finiſhed, they ſhould be as ſlowly cooled, unleſs where the veſſel is to be broken to get out the preparation, as in ſome ſublimations: in this caſe it is more adviſeable to expoſe the hot glaſs ſuddenly to the cold air, which will

will ſoon occaſion it to crack, than to endanger throwing down the ſublimed matter among the feces by a blow.

As a defence from the violence of the fire, and to prevent the contact of cold air on ſupplying freſh fuel, &c. the glaſs is to be coated over, to the thickneſs of about half a crown, with Windſor loam, ſoftened with water into a proper conſiſtence, and beaten up with ſome horſe-dung, or with the other clayey compoſitions above mentioned.

Theſe compoſitions ſerve alſo as a lute, for ſecuring the junctures of the veſſels in the diſtillation of the volatile ſalts and ſpirits of animals: for the diſtillation of acid ſpirits, the matter may be moiſtened with a ſolution of fixed alkaline ſalt inſtead of water. For moſt other purpoſes, a piece of wet bladder, or a paſte of flour and water, or of linſeed meal (that is, the cake left after the expreſſion of oil of linſeed), are ſufficient lutes.

Sometimes clay and chalk are mixed up into a paſte, and ſpread upon ſlips of paper; and ſometimes gum arabic is uſed inſtead of the clay, and mixed up in the ſame manner.

Wet bladders contract ſo ſtrongly by drying, that they not unfrequently break the veſſels: And the fat lute of Mr Macquer, which is a compoſition of clay and chalk with oil, is too cloſe for moſt operations. Where very elaſtic ſteams are to be condenſed, we are often obliged, even when the common lutes are employed, to leave or make an opening which may be occaſionally ſtopped by a plug: By this means we give paſſage to a part of theſe vapours, which prevents the burſting of the veſſels and facilitates the condenſation of the reſt. If we wiſh to collect incondenſible vapours, we receive them into a jar inverted under a baſon of water, or quickſilver, as directed in our Analyſis of Vegetables by fire.

Beſides theſe, there are alſo required ſome other kinds of lutes for joining veſſels together in operations requiring a ſtrong heat, and for lining furnaces. Four parts of ſand and one of clay anſwers beſt for luting: but for lining the inſide of furnaces, ſix or ſeven parts of ſand to one of clay is neceſſary, in order to prevent the contraction and conſequent cracking of the clay, which it moſt readily does when freeſt of ſand. Beſides this lute immediately next to the fire, three parts, by weight, of charcoal, to one of common clay, are firſt mixed in a dry powder, and as much water is to be added as will make them form into balls of the conſiſtence of ſnow: theſe balls are beat very firm and compact, by means of a hammer, on the inſide of the furnace, to the thickneſs of about one inch and a half: the other lute is ſpread over this to about the thickneſs of half an inch; and this too is beat ſolid by means of a hammer, and allowed to dry ſlowly, that all cracks and fiſſures may be prevented. After the body of the furnace is thus lined, the vent is applied and lined in the ſame manner; and the whole being dried, which requires a long time, a fire is kindled in the furnace, which is gradually heated a day or two, and then is raiſed to the greateſt intenſity: By theſe means the whole luting acquires a hardneſs equal to that of free-ſtone. Theſe are the lutes recommended and uſed by Dr Black; and, except for ſome operations in metallurgy, he ſeems to have been the firſt who thought of employing charcoal as an ingredient for the lining of furnaces.

The few ſimple lutes, here deſcribed, will be found to anſwer all the purpoſes of the more operoſe compoſitions recommended for theſe intentions by the chemical writers.

VESSELS.

IN this place, we ſhall only give the operator a few general cautions with regard to the *matter* of the veſſels deſigned for containing the ſubject; and refer their deſcription to the plates, and to the account of the operations in which they are employed.

Metalline veſſels poſſeſs the advantage of being able to bear ſudden alterations of heat and cold, and of being very ſtrong, ſo as to be capable of confining elaſtic ſteams; but, except thoſe made of gold or ſilver, they are readily corroded by acids, even by the milder ones of the vegetable kingdom. Copper veſſels are corroded alſo by alkaline liquors, and by ſome neutral ones, as ſolutions of ſal ammoniac. It is obſervable, that vegetable acids do not act upon this metal by boiling, ſo much as by ſtanding in the cold; for even lemon-juice may be boiled in a clean copper veſſel, without receiving from it any taſte or ill quality; whereas, in the cold, it ſoon diſſolves ſo much as to contract a pernicious taint. The tin, with which copper-veſſels are uſually lined, gives likewiſe a ſenſible impregnation to acid juices; and this impregnation alſo is probably not innocent, more eſpecially as a quantity of lead is commonly mixed with the tin. From the want of tranſparency in theſe veſſels, we are alſo deprived of the advantage of ſeeing the different changes during the operation.

The earthen veſſels poſſeſs none of the deſirable qualities for chemical operations, except that of ſuſtaining very violent degrees of heat, without being melted or otherwiſe changed. Theſe veſſels are leſs liable to external cracks from ſudden applications of heat and cold, when they are made with a certain proportion of ſand, than with pure clay. Black-lead, too, mixed with the clay, makes the veſſels ſuſtain violent degrees and ſudden alterations of heat ſurpriſingly well: crude clay, reduced to a kind of ſand by violent heat, and then mixed with raw clay, is alſo found to furniſh veſſels excellently fitted for thoſe operations where ſand might be corroded: but of all kinds of earthen ware, the moſt perfect is porcelain, compoſed of the fineſt clay mixed with a ſtony matter capable of melting in a violent heat: This, however, is too coſtly an article for general uſe. Reaumur diſcovered a method of imitating porcelain, by melting the coarſer kinds of glaſs with a mixture of ſand and clay: this has been found to be nearly of the colour of porcelain, to be much ſtronger than glaſs, and to bear the moſt ſudden changes of heat and cold that we have occaſion to apply. There has not hitherto been any manufacture of this ware; and till then it will not probably come into general uſe.

The common earthen veſſels are of a looſe porous texture; and hence are apt to imbibe a conſiderable quantity of certain liquids, particularly of thoſe of the ſaline kind; which ſoon diſcover their penetrating the veſſel, by ſhooting into ſaline efflorescences on the outſide. Thoſe which are *glazed* have their glazing corroded by acids: by vinegar, and the acid juices of fruits, as well as by the ſtronger acids of the mineral kingdom. And as this glazing conſiſts chiefly of vitrified lead, the impregnation which it communicates to theſe liquors is of a very dangerous kind. If vinegar be boiled for ſome time in a glazed earthen veſſel, it will yield on being inſpiſſated, a pure ſal plumbi, that is, a ſalt compoſed of lead and the acetous acid.

The veſſels called, from their hardneſs and compactneſs, *ſtone ware*, are in

PLATE. III. Nº 1.

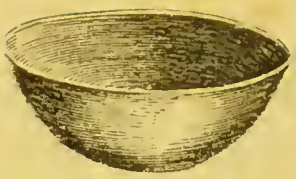


FIG. 1.

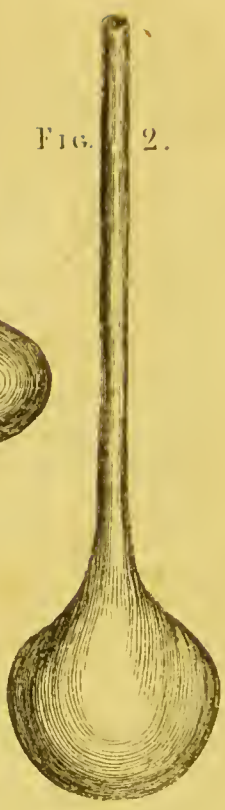
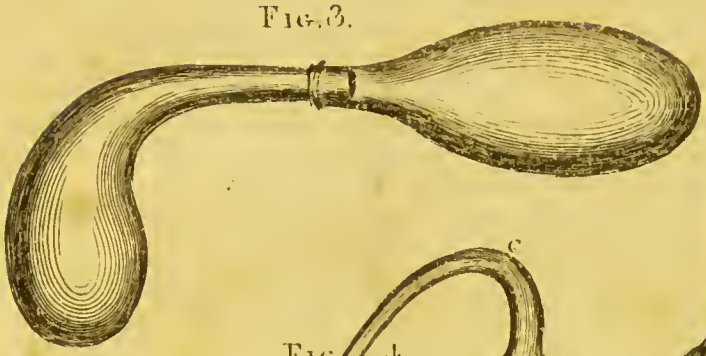


FIG. 2.

FIG. 3.



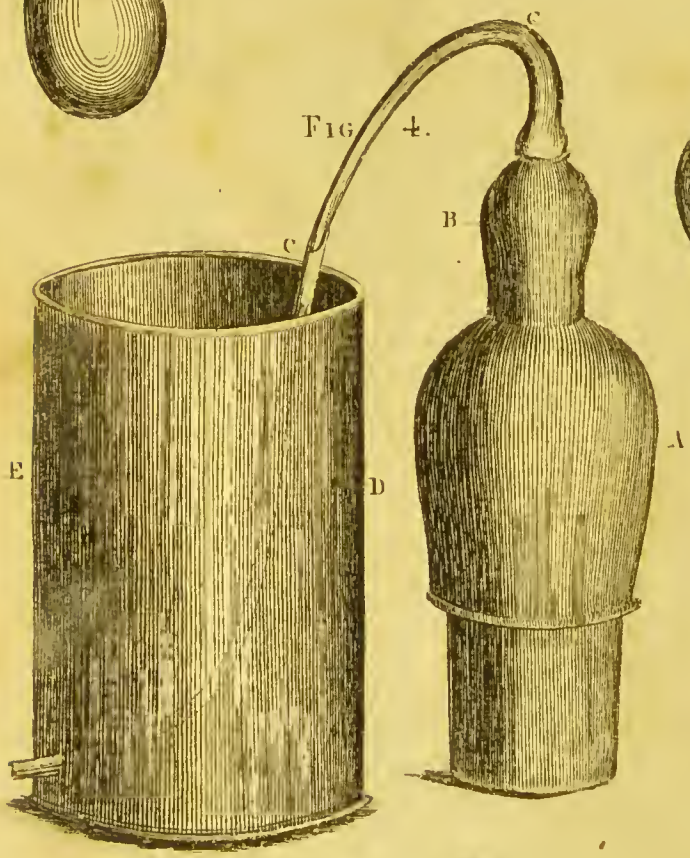


FIG. 4.

FIG. 5.

PLATE. III. Nº 2.

FIG. 6.

FIG. 7.

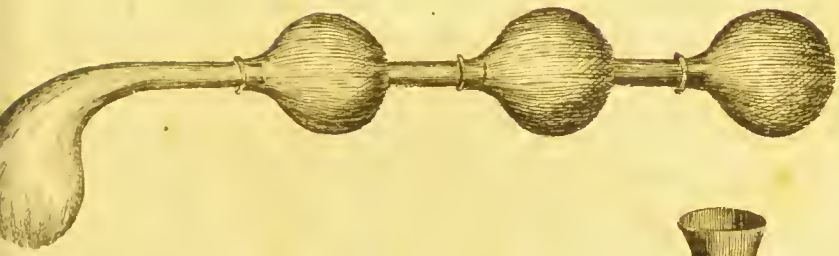


FIG. 8.

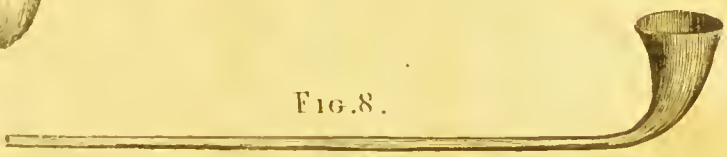
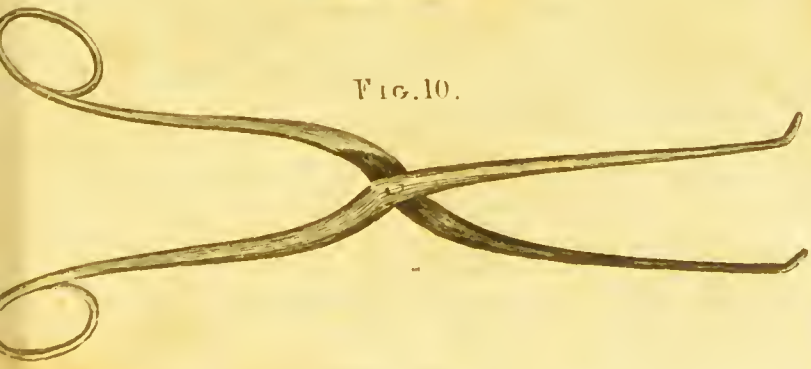


FIG. 9.

FIG. 10.



in a good meafure free from the inconveniences of the coarfer earthen ones. Their glazing being a part of the clay itfelf, fuperficially vitrified by means of the fumes of common falt, appears to be proof againft acids.

Glafs-veffels fuffer no corrofion, and give no taint, in any of the pharmaceutic operations. When, therefore, they are made of a proper thinnefs, when they are well annealed, and when blown into a fpherical form fo that the heat may be equally applied, they are preferable to all others, where great and fudden changes of heat and cold are not to take place, and where ftrength is not required: What is called the *flint-glafs*, which contains a quantity of lead in its compofition, is the beft for chemical purpofes. Having made thefe general remarks, we next come to defcribe the particular inftruments ufed in pharmacy: but as the nature and ufes of each will be better underftood after reading the following chapter, and the proceffes in which they are employed, we fhall here only give a fhort explanation of the figures of thefe inftruments; and to which the reader may occafionally recur in going over the fequel of the work.

Explanation *of* Plate III.

Fig. 1. An evaporating pan, being fuch a fection of a globe of glafs as is beft fitted for expofing a large furface.

Fig. 2. The chemical phial or matrafs, furnifhed with a long neck for allowing the vapours raifed by heat or mixture to circulate and be condenfed, whereby their efcape is prevented.

Fig. 3. A retort and receiver together, to fhow their connection during diftillation or fublimation. The receiver is of a conical figure; whereby the fteams have more room to circulate and condenfe. Dr Black has found this form more convenient, when we wifh to get out fublimed matter.

In the laft figure was reprefented an example of the *diftillatio per latus*, or the diftillation by the retort and receiver; and it is ufed in all cafes where nice operations are required, or where metallic veffels would be corroded by the contained matter. The *diftillatio per afcenfum* is performed by,

Fig. 4. A copper ftill.

A, the body of the ftill, containing the matter.

B, The head of the ftill into which the vapour immediately arifes; this is made to fit very clofely to the body, fo as to require little or no luting.

C, A pipe iffuing from the middle of the top of the head, and defcending to C, is received into the pipe D.

D, The pipe or worm defcending into a large veffel E, containing a quantity of cold water to keep the pipe cool, and thereby facilitate the condenfation of the vapours.

F, The further extremity of this pipe, coming out at an opening, in the under part of the veffel E; from this extremity the condenfed matter diftills.

This inftrument is on the conftruction ufed and recommended by Dr Black, and varies a little from the common form. He finds it unneceffary

ſary that the pipe D ſhould be made ſerpentine, which renders the cleaning of it very difficult and uncertain.

Fig. 5. A ſeparatory, for ſeparating oil from water.

This inſtrument is provided with two tubes, A, B, projecting from near its neck; and it is managed thus: If the oil to be ſeparated is ſpecifically lighter than water, the veſſel is gently inclined to one ſide, in order to pour out the oil, which from its lightneſs has aſcended into the tube: if, on the contrary, the oil is ſpecifically heavier than water, the veſſel, with its mouth ſhut, is to be inverted, that the oil at its bottom may be brought to ſink into one of the tubes; from which it is to be poured till the water begins to come off along with it, when the mouth of the tube is to be inſtantly ſhut by the top of a finger. It is obvious, that to manage this inſtrument properly, requires conſiderable addreſs and dexterity.

Fig. 6. An oblong glaſs veſſel, the under part of which is kept hot, when intended to ſublime ſolid matters, and the upper part is kept cool, whereby the vapour is condenſed in the form of a cake at the top. The mouth of the veſſel is to be ſtopt by a cotton ſtopple. This method is not ſo well fitted for large operations as the retort and receiver.

Fig. 7. An adopter, which is a receiver that has a pipe iſſuing from its farther extremity, and which is received into another receiver or adopter; we may increaſe or diminiſh the number of receivers at pleaſure. It may be uſeful for the condenſation of very elaſtic vapours, as thoſe of the cauſtic volatile alkali, vitriolic ether, &c. The receivers in this inſtrument are of the uſual form, and may ſhow wherein that recommended by Dr Black differs.

Fig. 8. A retort-funnel for pouring in liquors, ſo as to prevent touching the neck of the retort; and it is neceſſary that in drawing out the funnel we ſhould keep it applied to the upper part of the retort, whereby the drop hangs from the under edge of the funnel, and therefore cannot touch the inſide of the retort.

Fig. 9. A crucible, which is angled at the top for the conveniency of pouring out the contained matter. It is narrow below for receiving ſmall quantities, which in a larger compaſs might be leſs eaſily brought out. The black lead and clay crucibles are often acted on by ſaline matters, and ſometimes deſtroyed by the inflammable matter of the black-lead: they, however, anſwer much better for fuſing metals than thoſe of clay and ſand. Theſe laſt anſwer beſt for ſaline ſubſtances; but being more liable to break than the other, they may be made ſecurer by incloſing the crucible containing the matter within another crucible, and filling up the interſtices with ſand.

The crucible in this figure ſtands upon a pedeſtal, which is a piece of clay or brick betwixt the crucible and the grate, to prevent the cold air ſtriking the bottom whilſt the top is hot; in which caſe the crucible generally breaks to pieces. To prevent the fuel from falling in, we uſe covers made of clay, or we invert another crucible upon that containing the matter, and ſecure the joining by a proper lute.

Fig. 10. A pair of crucible tongs for putting in or taking out the matter to be wrought on.

Weights.

Two different kinds of weights are made use of in this country; one in the merchandise of gold and silver; the other for almost all other goods. The first we call Troy, the latter Averdupois weight.

The goldsmiths divide the Troy pound into twelve ounces; the ounce into twenty pennyweights; and the pennyweight into twenty-four grains. The Averdupois pound is divided into sixteen ounces; and the ounce into sixteen parts, called drams.

The pound of the London and Edinburgh dispensatories is that of the goldsmiths, divided in the following manner:

The pound	contains	twelve ounces.
The ounce		eight drams.
The dram		three scruples.
The scruple		twenty grains.

The grain is equal to the goldsmith's grain.

The medical or Troy pound is less than the Averdupois, but the ounce and the dram greater. The Troy pound contains 5670 grains; the Averdupois 7000 grains. The Troy ounce contains 480 grains; the Averdupois only 437½. The Troy dram 60; the Averdupois dram somewhat more than 27. Eleven drams Averdupois are equal to five drams Troy; twelve ounces Averdupois to nearly eleven ounces Troy; and nineteen pounds Averdupois are equal to somewhat more than twenty-three pounds Troy.

These differences in our weights have occasioned great confusion in the practice of pharmacy. As the druggists and grocers sell by the Averdupois weight, the apothecaries have not in general kept any weights adjusted to the Troy pound greater than two drams, using for all above Averdupois. By this means it is apparent, that in all compositions, where the ingredients are prescribed, some by pounds and others by ounces, they are taken in a wrong proportion to each other; and the same happens when any are directed in lesser denominations than the ounce, as these subdivisions, used by the apothecaries, are made to a different ounce.

Measures.

The measures employed in pharmacy are the common wine measures.

A gallon	contains	eight pints (*libræ.*)
The pint		sixteen ounces.
The ounce		eight drams.

Though the pint is called by Latin writers *libra* or pound, there is not any known liquor of which a pint-measure answers to that weight. A pint of the highest rectified spirit of wine exceeds a pound by above half an ounce; a pint of water exceeds it by upwards of three ounces; and a pint of oil of vitriol weighs more than two pounds and a quarter.

The Edinburgh College, sensible of the many errors from the promiscuous

cuous use of weights and measures, and of different kinds of these, have in the last edition of their Pharmacopœia entirely rejected measures, and employ the Troy weight in directing the quantity either of solid or fluid substances. They have, however, taken all possible care that the proportion of the simples and strength of the compound, should neither be increased nor diminished by this alteration. This change in the Edinburgh Pharmacopœia must be very particularly adverted to. And it is, we think, to be regretted, that the London College have not in the last edition of their Pharmacopœia followed the same plan.

A table of the weights of certain measures of different fluids may on many occasions be useful, both for assisting the operator in regulating their proportions in certain cases, and for showing the comparative gravities of the fluids themselves. We here insert such a table for a pint, an ounce, and a dram measure, of those liquids, whose gravity has been determined by experiments that can be relied on. The wine gallon contains 231 cubic inches; whence the pint contains $28\frac{7}{8}$, the ounce $1\frac{103}{1728}$, and the dram $\frac{231}{1424}$ of a cubic inch.

	Pint weighs			Ounce measure weighs	Dram measure weighs
	ounces	drams	grains	grains	grains
Inflammable Spirits.					
Æthereal spirit of wine -	11	1	36	336	42
Highly-rectified spirit of wine -	12	5	20	380	$47\frac{1}{2}$
Common-rectified spirit of wine	13	2	40	400	50
Proof spirit - - -	14	1	36	426	53
Dulcified spirit of salt - -	14	4	48	438	55
Dulcified spirit of nitre -	15	2	40	460	$57\frac{1}{2}$
Wines.					
Burgundy - - -	14	1	36	426	53
Red port - - -	15	1	36	456	57
Canary - - -	15	6	40	475	$59\frac{1}{2}$
Expressed Oils.					
Oil olive - - -	14	0	0	420	$52\frac{1}{2}$
Linseed oil - - -	14	2	8	428	$53\frac{1}{2}$
Essential Oils.					
Oil of turpentine - -	12	1	4	364	$45\frac{1}{2}$
of orange-peel - -				408	51
of juniper-berries - -				419	52
of rosemary - -				430	54
of origanum - -				432	54
of caraway-seeds - -				432	54
of nutmegs - -				436	$54\frac{1}{2}$
of savin - - -				443	$55\frac{1}{2}$
of hyssop - - -				443	$55\frac{1}{2}$
of cummin-seed - -				448	56
of mint - - -				448	56
of pennyroyal - -				450	$56\frac{1}{4}$

Essen-

	Pint weighs			Ounce measure weighs	Dram measure weighs
	ounces	drams	grains	grains	grains
ESSENTIAL OILS *continued.*					
Oil of dill-seed - -				457	57
of fennel-seed - -				458	57
of cloves - - -				476	59½
of cinnamon - -				576	49½
of sassafras - -				503	63
ALKALINE LIQUORS.					
Aqua kali-puri, *Pharm. Lond.* -	16	0	0	480	60
Spirit of sal ammoniac - -	17	1	10	515	64½
Strong soapboilers ley - -	17	6	24	534	67
Lixivium tartari - -	24	0	0	720	90
ACID LIQUORS.					
Wine-vinegar - - -	15	3	44	464	58
Beer-vinegar - -	15	6	56	476	59½
Glauber's spirit of salt -	17	4	0	525	65½
Glauber's spirit of nitre -	20	2	40	610	76
Strong oil of vitriol - -	28	5	20	860	107½
ANIMAL FLUIDS.					
Urine - - -	15	5	20	470	59
Cows milk - - -	15	6	40	475	59½
Asses milk - - -	16	0	0	480	60
Blood - - -	16	1	4	484	60½
WATERS.					
Distilled water - -	15	1	50	456	57
Rain-water - - -	15	2	40	460	57½
Spring-water - - -	15	3	12	462	58
Sea-water - - -	15	5	20	470	59
QUICKSILVER.	214	5	20	6440	805

CHAP

CHAPTER III.

Of the Pharmaceutical Operations.

SECT. I.

Solution.

Solution is an intimate commixture of ſolid bodies with fluids into one ſeemingly homogeneous liquor. The diſſolving fluid is called a *menſtruum* or *ſolvent;* and the body diſſolved is called the *ſolvend.*

Objections have been made, and perhaps with propriety, to theſe terms; as it is ſuppoſed that the two bodies uniting in ſolution act reciprocally on each other: there is, however, no danger from the words themſelves, if we do not derive them from a miſtaken theory. Solution cannot take place, unleſs one of the bodies, at leaſt, be in a fluid ſtate; and this fluidity is effected either by water or fire: hence ſolution is ſaid to be performed in the *humid*, or in the *dry way.* Thus, for inſtance, if any quantity of brimſtone be diſſolved in a ſolution of fixed alkali, the brimſtone is ſaid to be diſſolved in the *humid way:* but if the brimſtone be diſſolved by melting it in a pan with the dry alkali, the ſolution is ſaid to be done in the *dry way.* The hepar ſulphuris is the ſame in both. Another kind of ſolution reſembling that by the dry way, is, however, to be carefully diſtinguiſhed from it: If, for example, a piece of Glauber's ſalt is put into a pan over the fire, the ſalt very ſoon aſſumes a liquid ſtate; but on continuing the heat, it loſes its fluidity, and becomes a white powder: this powder is nothing but the ſalt freed from its water, and it is found to be very refractory. This liquidity depended on the water of cryſtalliſation, being enabled by the heat to keep the ſalt in ſolution, and the ſalt ceaſed to be fluid as ſoon as its cryſtalliſing water was evaporated. This kind of ſolution, then, differs not from the firſt, or humid way.

If one of the two bodies to be united is tranſparent, the ſolution, if complete, is a tranſparent compound: this is the caſe in ſolutions of alkalies and calcareous earths in acids. But if the ſolution be opaque and milky, as is the caſe with ſoap and water, it is then conſidered as incomplete.

The principal menſtrua made uſe of in pharmacy are, *water, vinous ſpirits, oils, acid* and *alkaline liquors.*

Water is the menſtruum of all ſalts, of vegetable gums, and of animal gellies. Of ſalts, it diſſolves only a determinate quantity, though of one kind of ſalt more than another; and being thus *ſaturated*, leaves any additional quantity of the ſame ſalt untouched.

Experiments have been made for determining the quantities of water which different ſalts require for the diſſolution. Mr Eller has given a large

large ſet in the Memoirs of the Royal Academy of Sciences of Berlin for the year 1750, from which the following table is extracted.

Eight ounces by weight of diſtilled water diſſolved.

	oz.	dr.	gr.
Of Refined ſugar,	24	0	0
Green vitriol	9	4	0
Blue vitriol	9	0	0
White vitriol	4	4	0
Epſom ſalt	4	0	0
Purified nitre	4	0	0
Soluble tartar	4	0	0
Common ſalt	3	4	0
Sal gemmæ	3	4	0
Sal catharticus Glauberi	3	4	0
Seignette's ſalt	3	0	0
Alum	2	4	0
Sal ammoniac	2	4	0
Vitriolated tartar	1	4	0
Salt of hartſhorn	1	4	0
Sugar of lead	1	2	0
Cream of tartar	1	0	0
Borax	0	4	20

Though great care appears to have been taken in making theſe experiments, it is not to be expected that the proportions of the ſeveral ſalts, ſoluble in a certain quantity of water, will always be found exactly the ſame with thoſe above ſet down. Salts differ in their ſolubility according to the degree of their purity, perfection, and dryneſs: the vitriols, and the artificial compound ſalts in general, differ remarkably in this reſpect, according as they are more or leſs impregnated with the acid ingredient. Thus vitriolated tartar, perfectly neutralized, is extremely difficult of ſolution: the matter which remains in making Glauber's ſpirit of nitre is no other than a vitriolated tartar; and it diſſolves ſo difficultly, that the operator is obliged to break the retort in order to get it out; but on adding more of the vitriolic acid, it diſſolves with eaſe. Hence many have been tempted to uſe an over-proportion of acid in this preparation; and we frequently find in the ſhops, under the name of vitriolated tartar, this acid ſoluble ſalt. The degree of heat occaſions alſo a remarkable difference in the quantity of ſalt taken up: in very cold weather, eight ounces of water will diſſolve only about one ounce of nitre; whereas in warm weather, the ſame quantity will take up three ounces or more. To theſe circumſtances are probably owing, in part, the remarkable differences in the proportional ſolubilities of ſalts, as determined by different authors. It is obſervable that common ſalt is leſs affected in its ſolubility by a variation of heat than any other: water in a temperate ſtate diſſolving nearly as much of it as very hot water: and accordingly this is the ſalt in which the different experiments agree the beſt. In the experiments of Hoffmann, Neumann, and Petit, the proportion of this ſalt, on a reduction of the numbers, comes out exactly the ſame, viz. three ounces of the ſalt to eight of water; Dr Brownrigg makes

makes the quantity of ſalt a little more; Dr Grew, a dram and a ſcruple more; and Eller, as appears in the above table, four drams more: ſo that in the trials of ſix different perſons, made probably in different circumſtances, the greateſt difference is only one-ſixth of the whole quantity of ſalt; whereas in ſome other ſalts there are differences of twice or thrice the quantity of the ſalt. In the experiments from which the table is drawn, the water was of the temperature of between 40 and 42 degrees of Farenheit's thermometer, or above freezing by about one-ſeventh of the interval between freezing and the human heat.

Some ſalts omitted by Eller are here ſubjoined: the firſt is taken from Dr Grew, and the other four from Neumann.

Eight ounces of water diſſolved

	oz.	dr.	gr.
Of fixed alkaline ſalt - - above	8	0	0
Sal diureticus - - -	8	0	0
Sugar-candy, both brown and white - -	9	0	0
Sugar of milk - -	0	2	40
Eſſential ſalt of ſorrel - - -	0	1	20

Though water takes up only a certain quantity of one kind of ſalt, yet when ſaturated with one, it will ſtill diſſolve ſome portion of another; and when it can bear no more of either of theſe, it will ſtill take up a third, without letting go any of the former. The principal experiments of this kind which have been made relative to pharmaceutic ſubjects, are exhibited in the following table; of which the two firſt articles are from Grew, and the others from Eller

Water, 32 parts by weight,

Fully ſaturated with	Nitre	diſſolved afterwards	Sal ammoniac 10		
	Common ſalt		Nitre 10	Sal ammoniac	2
	Nitre		Fixed alkali 7	Common ſalt	2
	Common ſalt		Nitre, near 2	Fixed alkali	$2\frac{1}{2}$
	Volatile alkali		Nitre 4	Sugar	2
	Sal ammoniac		Common ſalt $2\frac{1}{2}$		
	Soluble tartar		Nitre 2		
	Vitriolated tartar		Fixed alkali 2		
	Glauber's ſalt		Nitre 1	Sugar	1
	Epſom ſalt		Sugar 6		
	Borax		Fixed alkali 2		

In regard to the other claſs of bodies for which water is a menſtruum, viz. thoſe of the gummy gelatinous kind, there is no determinate point of ſaturation: the water unites readily with any proportions of them, forming with different quantities liquors of different conſiſtence. This fluid takes up likewiſe, when aſſiſted by trituration, the vegetable gummy reſins, as ammoniacum and mirrh; the ſolutions of which, though *imperfect*, that is, not tranſparent, but turbid and of a milky hue, are nevertheleſs applicable to valuable purpoſes in medicine. It mingles with vinous ſpirits, with acid and alkaline liquors, not with oils, but imbibes ſome of the

the more ſubtile parts of eſſential oils, ſo as to become impregnated with their ſmell and taſte.

Rectified *ſpirit of wine*, or rather *alcohol*, is the menſtruum of the eſſential oils and reſins of vegetables; of the pure diſtilled oils, and ſeveral of the colouring and medicinal parts of animals; of ſome mineral bituminous ſubſtances, as of ambergris; and of ſoaps, though it does not act upon the expreſſed oil and fixed alkaline ſalt, of which ſoap is compoſed: whence, if ſoap contains any ſuperfluous quantity of either the oil or ſalt, it may by means of this menſtruum be excellently purified therefrom. It diſſolves, by the aſſiſtance of heat, volatile alkaline ſalts; and more readily the neutral ones, compoſed either of fixed alkali and the acetous acid, as the ſal diureticus, or of the volatile alkali and the nitrous acid, as alſo the ſalt of amber, &c. It mingles with water and with acids; not with alkaline lixivia.

Oils diſſolve vegetable reſins and balſams, wax, animal-fats, mineral bitumens, ſulphur, and certain metallic ſubſtances, particularly lead. The expreſſed oils are, for moſt of theſe bodies, more powerful menſtrua than thoſe obtained by diſtillation; as the former are more capable of ſuſtaining, without injury, a ſtrong heat, which is in moſt caſes neceſſary to enable them to act. It is ſaid, that one ounce of ſulphur will diſſolve in three ounces of expreſſed oil, particularly that of linſeed; but requires ſix ounces of eſſential oil, as that of turpentine.

All acids diſſolve alkaline ſalts, alkaline earths, and metallic ſubſtances. The different acids differ greatly in their action upon theſe laſt; one diſſolving only ſome particular metals; and another, others.

The *vegetable* acids diſſolve a conſiderable quantity of zinc, iron, copper, lead, and tin; and extract ſo much from the metallic part of antimony, as to become powerfully emetic: They diſſolve lead more readily, if the metal be previouſly calcined by fire, than in its metallic ſtate.

The *marine* acid diſſolves zinc, iron, and copper; and though it ſcarcely acts on any other metallic ſubſtance in the common way of making ſolutions, it may nevertheleſs be artfully combined with them all except gold. The corroſive ſublimate, and antimonial cauſtic of the ſhops, are combinations of it with mercury and the metallic part of antimony, effected by applying the acid, in the form of fume, to the ſubjects, at the ſame time alſo ſtrongly heated.

The *nitrous* acid is the common menſtruum of all metallic ſubſtances, except gold and the metallic part of antimony; of which two, the proper ſolvent is a mixture of the nitrous and marine acids, called *aqua regia*.

The *vitriolic* acid, diluted with water, eaſily diſſolves zinc and iron. In its concentrated ſtate, and aſſiſted by a boiling heat, it may be made to corrode, or imperfectly diſſolve, moſt of the other metals.

The aërial acid diſſolves iron, zinc, and calcareous earth; and thoſe ſolutions muſt be conducted without heat.

Alkaline *lixivia* diſſolve oils, reſinous ſubſtances, and ſulphur, Their power is greatly promoted by the addition of quicklime; inſtances of which occur in the preparation of ſoap, and in the common cauſtic. Thus acuated,

ted, they reduce the flesh, bones, and other solid parts of animals, into a gelatinous matter.

This increased acrimony in alkaline salts, is owing to the abstraction of their fixed air; that acid having a greater attraction for quicklime than for alkalies.

Solutions made in water and in spirit of wine possess the virtues of the body dissolved; whilst oils generally sheath its activity, and acids and alkalies vary its quality. Hence watery and spiritous liquors are the proper menstrua of the native virtues of vegetable and animal matters.

Most of the foregoing solutions are easily effected, by pouring the menstruum on the body to be dissolved, and suffering them to stand together for some time exposed to a suitable warmth. A strong heat is generally requisite to enable oils and alkaline liquors to perform their office; nor will acids act on some metallic bodies without its assistance. The action of watery and spirituous menstrua is likewise expedited by a moderate heat; though the quantity which they afterwards keep dissolved is not, as some suppose, by this means increased: all that heat occasions these to take up, more than they would do in a longer time in the cold, will, when the heat ceases, subside again. This at least is most commonly the case, tho' though there may be some instances of the contrary.

The action of acids on the bodies which they dissolve, is generally accompanied with heat, effervescence, and a copious discharge of fumes. The fumes which arise during the dissolution of some metals in the vitriolic acid, prove inflammable: hence in the preparation of the artificial vitriols of iron and zinc, the operator ought to be careful, especially where the solution is made in a narrow-mouthed vessel, lest by the imprudent approach of a candle the exhaling vapour be set on fire. This vapour is the inflammable air of Dr Priestley and other modern chemists.

There is another species of solution, in which the moisture of the air is the menstruum. Fixed alkaline salts, and those of the neutral kind, composed of alkaline salts and the vegetable acids, or of soluble earths and any acid, except the vitriolic, and some metallic salts, on being exposed for some time to a moist air, gradually attract its humidity, and at length become liquid. Some substances, not dissoluble by the application of water in its grosser form, as the butter of antimony, are easily liquefied by this slow action of the aëreal moisture. This process is termed *deliquiation*

SECT. II.

Extraction.

THE liquors which dissolve certain substances in their pure state, serve likewise to *extract* them from admixtures of other matter. Thus ardent spirit, the menstruum of essential oils and resins, takes up the virtues of the resinous and oily vegetables, as water does those of the mucilaginous and saline; the inactive earthy parts remaining untouched by both. Water extracts likewise from many plants, substances which by themselves it has little effect upon; even essential oils being, as we have formerly observed, rendered soluble in that fluid by the admixture of gummy and saline matter, of which all vegetables participate in

in a greater or leſs degree. Thus many of the aromatic plants, and moſt of the bitters and aſtringents, yield their virtues to this menſtruum.

Extraction is performed, by *macerating* or *ſteeping* the ſubject in its appropriated menſtruum in the cold; or *digeſting* or *circulating* them in a moderate warmth; or *infuſing* the plant in the boiling liquor, and ſuffering them to ſtand in a covered veſſel till grown cold; or actually *boiling* them together for ſome time. If the vegetable matter is itſelf ſucculent and watery, it is ſometimes only neceſſary to expreſs the juice, and evaporate it to the proper conſiſtence.

The term *digeſtion* is ſometimes uſed for maceration; and in this caſe the proceſs is directed to be performed *without heat:* where this circumſtance is not expreſſed, digeſtion always implies the uſe of heat. Circulation differs from digeſtion only in this; that the ſtream, into which a part of the liquor is reſolved by the heat, is, by means of a proper diſpoſition of the veſſels, condenſed and conveyed back again upon the ſubject. Digeſtion is uſually performed in a matraſs (or bolt-head), Florence flaſk, or the like; either of which may be converted into a circulatory veſſel, by inverting another into the mouth, and ſecuring the juncture with a piece of wet bladder. A ſingle matraſs, if its neck be very long and narrow, will anſwer the purpoſe as effectually; the vapour cooling and condenſing before it can riſe to the top: in a veſſel of this kind, even ſpirit of wine, one of the moſt volatile liquors we know of, may be boiled without any conſiderable loſs: the uſe of this inſtrument is likewiſe free from an inconvenience, which may in ſome caſes attend the other, of the uppermoſt veſſel being burſt or thrown off. As the long-necked matraſſes here recommended, are difficultly filled or emptied, and likewiſe very dear, a long glaſs pipe may be occaſionally luted to the ſhorter ones.

Heat greatly expedites extraction; but by this means proves as injurious to ſome ſubſtances, by occaſioning the menſtruum to take up their groſſer and more ungrateful parts, as it is neceſſary for enabling it to extract the virtues of others. Thus guaiacum and logwood impart little to aqueous liquors without a boiling heat; whilſt even a ſmall degree of warmth proves greatly prejudicial to the fine bitter of carduus benedictus. This plant, which infuſed in boiling, or digeſted in ſenſibly hot water, gives out a nauſeous taſte, ſo offenſive to the ſtomach as to promote vomiting, yields to the cold element a grateful balſamic bitter.

As heat promotes the diſſolving power of liquids; ſo cold, on the other hand, diminiſhes it. Hence tinctures or extractions made by a conſiderable heat, depoſite in cold weather a part of their contents, and thus become proportionally weaker: a circumſtance which deſerves particular regard.

SECT III.

Depuration.

THERE are different methods of *depurating* or purifying liquors from their feculencies, according as the liquor itſelf is more or leſs tenacious, or the feculent matter of greater or leſs gravity.

Thin fluids readily depofite their more ponderous impurities upon ftanding at reft for fome time in a cool place; and may then be *decanted*, or poured off clear, by inclining the veffel.

Glutinous, unctuous, or thick fubftances, are to be liquefied by a fuitable heat; when the groffer feculencies will fall to the bottom; the lighter arifing to the furface, to be *defpumated* or fcummed off.

Where the impurities are neither fo ponderous as to fubfide freely to the bottom, nor fo light as to arife readily to the furface, they may be feparated in great meafure by *colature* through ftrainers of linen, woolen, or other cloth; and more perfectly by *filtration* through a foft bibulous kind of paper made for this purpofe.

The grey paper which covers pill-boxes as they come from abroad, is one of the beft for this purpofe: it does not eafily break when wetted, or tinge the liquor which paffes through it, which the reddifh fort called *bloffom paper* frequently does. The paper is fupported by a funnel or piece of canvas fixed in a frame. When the funnel is ufed, it is convenient to put fome ftraws or fmall ficks between the paper and its fides, to prevent the weight of the liquor from preffing the paper fo clofe to it, as not to allow room for this fluid to tranfude. In fome cafes a funnel made of wire is put betwixt the paper and the glafs funnel. There is alfo a kind of glafs funnel with ridges down its fides made on purpofe for this ufe.

Glutinous and unctuous liquors, which do not eafily pafs through the pores of a filter or ftrainer, are *clarified* by beating them up with whites of eggs; which concreting or growing hard when heated, and entangling the impure matter, arife with it to the furface: the mixture is to be gently boiled till the fcum begins to break, when the veffel is to be removed from the fire, the cruft taken off, and the liquor paffed through a flannel bag.

Decantation, colature, and filtration, are applicable to moft of the medicated liquors that ftand in need of purification. Defpumation and clarification very rarely have place; fince thefe, along with the impurities of the liquor, frequently feparate its medicinal parts. Thus, if the decoction of poppy heads, for making diacodium, be folicitoufly fcummed or clarified, the medicine will lofe almoft all that the poppies communicated; and inftead of a mild opiate, turn out little other than a plain fyrup of fugar.

It may be proper to obferve, that the common forts of filtering paper are apt to communicate a difagreeable flavour: and hence in filtering fine bitters or other liquor, whofe gratefulnefs is of primary confequence, the part which paffes through firft ought to be kept apart for inferior purpofes.

SECT. IV.

Crystallisation.

WATER, affifted by heat, diffolves a large proportion of moft faline fubftances than it can retain when grown cold: hence, on the abatement of the heat, a part of the falt feparates from the menftruum, and concretes at the fides and bottom of the veffel. The concretions,

tions, unleſs too haſtily formed by the ſudden cooling of the liquor, or diſturbed in their coaleſcence by agitation, or other ſimilar cauſes, prove tranſparent and of regular figures, reſembling in appearance the natural ſprig-cryſtals.

Salts, diſſolved in a large quantity of water, may in like manner be recovered from it in their cryſtalline form, by boiling down the ſolution, till ſo much of the fluid has exhaled as that the remainder will be too little to keep the ſalt diſſolved when grown perfectly cold. It is cuſtomary to continue the evaporation till the ſalt ſhows a diſpoſition to concrete even from the hot water, by forming a pellicle on that part which is leaſt hot, viz. on the ſurface. If large, beautiful, and perfectly-figured cryſtals are required, this point is ſomewhat too late: for if the ſalt thus begins to coaleſce whilſt conſiderably hot, on being removed into a cold place its particles will run too haſtily and irregularly together; the pellicle at the ſame time falling down through the liquor, and thus proving a farther diſturbance to the regularity of the cryſtallization.

In order to perform this proceſs in perfection, the evaporation muſt be gentle, and continued no longer than till ſome drops of the liquor, let fall on a cold glaſs plate, diſcover cryſtalline filaments. When this mark of ſufficient exhalation appears, the veſſel is to be immediately removed from the fire into a leſs warm, but not cold place, and covered with a cloth to prevent the acceſs of cold air, and conſequently the formation of a pellicle.

The fixed alkalies, eſpecially the mineral, when fully ſaturated with fixed air or the aërial acid, aſſume a cryſtalline form; but theſe cryſtals are not ſo perfect as when the ſame alkalies are united with the other acids. The volatile alkalies cannot cryſtalliſe, becauſe they eſcape before the menſtruum exhales.

Some even of the other neutral ſalts, particularly thoſe of which certain metallic bodies are the baſis, are ſo ſtrongly retained by the aqueous fluid, as not to exhibite any appearance of cryſtalliſation, unleſs ſome other ſubſtance be added, with which the water has a greater affinity. The Table of Affinity ſhows that ſuch a ſubſtance is ſpirit of wine; by the prudent addition of which, theſe kinds of ſalt ſeparate freely from the menſtruum, and form large and beautiful cryſtals, ſcarce obtainable by any other means.

The operator muſt be careful not to add too much of the ſpirit; leſt, inſtead of a gradual and regular cryſtalliſation, the baſis of the ſalt be haſtily precipitated in a powdery form. One-twentieth part of the weight of the liquor will in moſt caſes be a ſufficient, and in ſome too large a quantity.

Different ſalts require different quantities of water to keep them diſſolved: and hence, if a mixture of two or more be diſſolved in this fluid, they will begin to ſeparate and cryſtalliſe at different periods of the evaporation. Upon this foundation, ſalts are freed, not only from ſuch impurities as water is not capable of diſſolving and carrying through the pores of a filter, but likewiſe from admixtures of each other; that which requires moſt water to diſſolve in ſhooting firſt into cryſtals.

It is proper to remark, that a ſalt, when cryſtalliſing, ſtill retains and combines with a certain portion of water: this water is not eſſential to the ſalt as a ſalt, but is eſſential to a ſalt as being cryſtalliſed; it is therefore called by the chemiſts the *water of cryſtalliſation.* The quantity of this

this water varies in different ſalts: In ſome of them, as in Glauber's ſalt, alum, and copperas, it makes up about one half of their weight; in others, as in nitre, common ſalt, and eſpecially ſelenites, it is in very ſmall quantity. As ſalts unite to the water of their cryſtalliſation by their attraction for water alone, we accordingly find that this water is perfectly pure, and contains, in complete cryſtals, no ſubſtance foreign to the ſalt. Salts not only differ in the quantity of water neceſſary to their ſolution, but ſome of them alſo are ſoluble with equal facility in cold as in hot water. Sometimes, then, we employ evaporation; ſometimes cooling; and at other times both theſe expedients are uſed alternately, to ſeparate different ſalts diſſolved in the ſame liquor. It is obvious, then, that thoſe which are nearly, or equally ſoluble in cold as in boiling water, can only be cryſtallyſed by evaporation; thoſe again, which are much more ſoluble in boiling than in cold water, are to be ſeparated by cooling. Of the firſt of theſe is common or marine ſalt: of the latter is nitre or ſaltpetre. It remains, then, that we ſhould know how to ſeparate theſe two ſalts, when both of them happen to be diſſolved in the ſame water: this method conſiſts in alternate evaporation and cooling. If in ſuch a ſolution a pellicle appears in the boiling liquor before cryſtals can be formed in the cooling, we then conclude that the common ſalt predominates: In this caſe we evaporate the water, and ſeparate the common ſalt as faſt as it is formed, till the liquor on cooling ſhows cryſtals of nitre: we then allow the nitre to cryſtalliſe by cooling. After all the nitre which had been diſſolved by the heat alone has now ſeparated by cooling, we reſume the evaporation, and ſeparate the common ſalt till the cooling liquor again ſhows cryſtals of nitre. We thus repeat the ſame ſeries of operations, by which means theſe two ſalts may be alternately cryſtalliſed; the one by evaporation, the other by cooling, till they are perfectly ſeparated from each other. If in the beginning of the operation the liquor had, upon trial, given cryſtals of nitre by cooling before any pellicle appeared on its ſurface when boiling, this would have indicated that the nitre was predominant in the ſolution; the nitre in this caſe would have been cryſtalliſed, firſt by cooling, till the quantity of nitre exceeding that of the common ſalt having been ſeparated, the common ſalt would next have cryſtalliſed in its turn by evaporation. The example we have now given may be applied to other ſalts, or to a number of ſalts which may happen to be diſſolved in the ſame liquor. For though there are few ſo completely ſoluble in cold water as common ſalt, and few ſo ſcantily as nitre; yet there are ſcarcely two ſalts which either preciſely ſhow the ſame ſolubility or the ſame appearance of their cryſtals. It is obvious, too, that by cryſtalliſation we diſcover the peculiar predominant ſalt in any ſolution of mixed ſaline matter; but as one ſalt always takes down a ſmall portion of another, it is neceſſary to rediſſolve the firſt products, and repeat the cryſtalliſation, in order to render the ſeparation complete.

We ſee, then, that though the cryſtal appearance and form does not alter the ſalt itſelf, yet that this proceſs affords an elegant method of diſcovering compound ſolutions of ſalts, of judging of their purity, and, laſtly, of ſeparating different ſalts very completely from each other. Cryſtalliſation, then, is one of the moſt important agents in pharmacy, and ought to be well underſtood. We ſhall attempt to explain the particular

cular management in cryſtalliſing particular ſalts, when we come to treat of each of them ſeparately.

SECT. V.

Precipitation.

BY this operation, bodies are recovered from their ſolutions, by means of the addition of ſome other ſubſtance, with which either the menſtruum, or the body diſſolved, have a greater affinity than they have with each other.

Precipitation, therefore, is of two kinds; one, where the ſubſtance ſuperadded unites with the menſtruum, and occaſions that before diſſolved to be thrown down; the other, in which it unites with the diſſolved body, and falls along with it to the bottom. Of the firſt, we have an example in the precipitation of ſulphur from alkaline lixivia by the means of acids; of the ſecond, in the precipitation of mercury from aquafortis by ſea-ſalt, or its acid.

The ſubjects of this operation, as well thoſe which are capable of being precipitated as thoſe which precipitate them, will readily appear from inſpection of the Table of Affinity, The manner of performing it is ſo ſimple, as not to ſtand in need of any particular directions; no more being required, than to add the precipitant by degrees, ſo long as it continues to occaſion any precipitation. When the whole of the powder has fallen, it is to be well *edulcorated*, that is, waſhed in ſeveral freſh parcels of water, and afterwards dried for uſe.

Where metals are employed as precipitants, as in the purification of martial vitriol from copper by the addition of freſh iron, they ought to be perfectly clean and free from any ruſty or greaſy matter; otherwiſe they will not readily, if at all, diſſolve, and conſequently the precipitation will not ſucceed; for the ſubſtance to be precipitated ſeparates only by the additional one diſſolving and taking its place. The ſeparated powder, often, inſtead of falling to the bottom. lodges upon the precipitant; from which it muſt be occaſionally ſhaken off, for reaſons ſufficiently obvious.

Though, in this operation, the precipitated powder is generally the part required for uſe, yet ſome advantage may frequently be made of the liquor remaining after the precipitation. Thus when fixed alkaline ſalt is diſſolved in water, and ſulphur diſſolved in this lixivium; the addition of acids ſeparates and throws down the ſulphur, only in virtue of the acid uniting with, and neutralizing the alkali by which the ſulphur was held diſſolved: conſequently, if the precipitation be made with the vitriolic acid, and the acid gradually dropt in till the alkali be completely ſatiated, that is, ſo long as it continues to occaſion any precipitation or turbidneſs, the liquor will yield, by proper evaporation and cryſtalliſation, a neutral ſalt, compoſed of the vitriolic acid and fixed alkali, that is, vitriolated tartar. In like manner, if the precipitation be made with the nitrous acid, a true nitre may be recovered from the liquor; if with the marine, the ſalt called *ſpiritus ſalis marini coagulatus;* and if with the acid of vinegar, the *ſal diureticus.*

SECT. VI.

Evaporation.

Evaporation is a third method of recovering ſolid bodies from their ſolutions, effected by the means of heat; which *evaporating* the fluid part, that is, forcing it off in ſteam, the matter which was diſſolved therein is left behind in its ſolid form.

The general rules for evaporation are, To place the matter in a flat, ſhallow, wide veſſel, ſo that a large ſurface of the liquor may be preſented to the air: for it is only from the ſurface that evaporation takes place. The degree of heat ought to be proportioned to the volatility of the ſubſtance to be evaporated, and to the degree of fixity of the matter to be left: Thus, the leſs fixed the matter to be left is, and the more ſtrongly it adheres to the volatile parts, the leſs the degree of heat ought to be; and in ſuch caſes, too, a forcible current of air is ſometimes ſcarcely admiſſible: On the contrary, when the matter to be evaporated is not very volatile, and when the matter to be left is very fixed, and does not adhere ſtrongly to the volatile part, the evaporation may be urged by a ſtrong heat, aided by a current of air directed upon the ſurface of the liquor.

This proceſs is applicable to the ſolutions of all thoſe ſubſtances which are leſs volatile than the menſtruum, or which will not exhale by the heat requiſite for the evaporation of the fluid; as the ſolutions of fixed alkaline ſalts; of the gummy, gelatinous, and other inodorous parts of vegetables and animals in water; and of many reſinous and odorous ſubſtances in ſpirit of wine.

Water extracts the virtues of ſundry fragrant aromatic herbs, almoſt as perfectly as rectified ſpirit of wine: but the aqueous infuſions are far from being equally ſuited to this proceſs with thoſe made in ſpirit; water carrying off the whole odour and flavour of the ſubject, which that lighter liquor leaves entire behind it. Thus a watery infuſion of mint loſes in evaporation the ſmell, taſte, and virtues, of the herb; whilſt a tincture drawn with pure ſpirit, yields, on the ſame treatment, a thick balſamic liquid, or ſolid gummy reſin, extremely rich in the peculiar qualities of the mint.

In evaporating theſe kinds of liquors, particular care muſt be had, towards the end of the proceſs, that the heat be very gentle; otherwiſe the matter as it grows thick will burn to the veſſel, and contract a diſagreeable ſmell and taſte: this burnt flavour is called an *empyreuma*. The liquor ought to be kept ſtirring during the evaporation; otherwiſe a part of the matter concretes on the ſurface expoſed to the air, and forms a pellicle which impedes the farther evaporation. More particular directions for performing this operation to the greateſt advantage will be given hereafter.

SECT.

SECT. VII.

Diſtillation.

IN the foregoing operation fluids are rareſied by heat into ſteam or vapour, which is ſuffered to exhale in the air, but which it is the buſineſs of this to collect and preſerve. For this purpoſe the ſteam is received in proper veſſels, luted to that in which the ſubject is contained; and being there cooled, condenſes into a fluid form again.

There are two kinds of diſtillation: by the one, the more ſubtile and volatile parts of liquors are elevated from the groſſer; by the other, liquids incorporated with ſolid bodies are forced out from them by vehemence by fire.

To the firſt belong, the diſtillation of the pure inflammable ſpirit from vinous liquors; and of ſuch of the active parts of vegetables as are capable of being extracted by boiling water or ſpirit, and at the ſame time of ariſing along with their ſteam.

As boiling water extracts or diſſolves the eſſential oils of vegetables, whilſt blended with the other principles of the ſubject, without ſaturation, but imbibes only a determinate, and that a ſmall proportion of them, in their pure ſtate; as theſe oils are the only ſubſtances, contained in common vegetables, which prove totally volatile in that degree of heat; and as it is in them that the virtues of aromatics, and the peculiar odour and flavour of all plants, reſide; it is evident, that water may be impregnated by diſtillation, with the more valuable parts of many vegetables: that this impregnation is limited, the oil ariſing in this proceſs pure from thoſe parts of the plant which before rendered it ſoluble in water without limitation; hence greateſt part of the oil ſeparates from the diſtilled aqueous liquor, and, according to its greater or leſs gravity, either ſinks to the bottom or ſwims on the ſurface: that conſequently infuſions and diſtilled waters are very different from each other: that the firſt may be rendered ſtronger by pouring the liquor on freſh parcels of the ſubject; but that the latter cannot be in like manner improved by *cohobating*, or re-diſtilling them from freſh ingredients.

As the oils of many vegetables do not freely diſtil with a leſs heat than that in which water boils; as rectified ſpirit of wine is not ſuſceptible of this degree of heat; and as this menſtruum totally diſſolves theſe oils in their pure ſtate; it follows, that ſpirit elevates far leſs from moſt vegetables than water; but that nevertheleſs the diſtilled ſpirit, by keeping all that it does elevate, perfectly diſſolved, may, in ſome caſes, prove as ſtrong of the ſubject as the diſtilled water. The more gentle the heat, and the ſlower the diſtillation goes on, the volatile parts are the more perfectly ſeparated in their native ſtate.

The apparatus made uſe for diſtilling ſpirits, waters, and oils, conſiſt of a *ſtill*, or copper veſſel, for containing the ſubject, on which is luted a large *head* with a *ſwan-neck*. The vapour ariſing into the head, is hence conveyed throw a *worm*, or long ſpiral pipe, placed in a veſſel of cold water called a *refrigeratory*; and being their condenſed, runs down into a *receiver*.

It

It may be obſerved, that as the parts which are preſerved in evaporation cannot ariſe in diſtillation, the liquor remaining after the diſtillation, properly depurated and inſpiſſated, will yield the ſame extracts as thoſe prepared from the tincture or decoction of the ſubject made on purpoſe for that uſe; the one of theſe operations collecting only the volatile parts, and the other the more fixed: ſo that where one ſubject contains medicinal parts of both kinds, they may thus be obtained diſtinct, without one being injured by the proceſs which collects the other.

The ſubjects of the ſecond kind of diſtillation are, the groſs oils of vegetables and animals, the mineral acid ſpirits, and the metallic fluid quickſilver; which as they require a much ſtronger degree of heat to elevate them than the foregoing liquors can ſuſtain, ſo they likewiſe condenſe without ariſing ſo far from the action of the fire. The diſtillation of theſe is performed in low glaſs veſſels, called, from their neck being bent to one ſide, *retorts:* to the farther end of the neck a *receiver* is luted, which ſtanding without the furnace, the vapours ſoon condenſe in it, without the uſe of a refrigeratory: nevertheleſs, to promote this effect, ſome are accuſtomed, eſpecially in warm weather, to cool the receiver, by occaſionally applying wet clothes to it, or keeping it partly immerſed in a veſſel of cold water.

The vapours of ſome ſubſtances are ſo ſluggiſh, or ſtrongly retained by a fixed matter, as ſcarce to ariſe even over the low neck of the retort. Theſe are moſt commodiouſly diſtilled in ſtreight-necked earthen veſſels, called *longnecks*, laid on their ſides, ſo that the vapour paſſes off laterally with little or no aſcent: a receiver is luted to the end of the neck without the furnace. In this manner, the acid ſpirit of vitriol is diſtilled. The matter which remains in the retort or longneck, after the diſtillation, is vulgarly called *caput mortuum.*

In theſe diſtillations, a quantity of elaſtic air is frequently generated; which, unleſs an exit be allowed, blows off or burſts the receiver. The danger of this may in good meaſure be prevented, by ſlowly raiſing the fire: but more effectually, by leaving a ſmall hole in the luting, to be occaſionally opened or ſtopt with a wooden plug; or inſerting at the juncture an upright pipe of ſuch a height, that the ſteam of the diſtilling liquor may not be able to riſe to the top: but it is ſtill better done by fitting to the apparatus other veſſels, by which their vapours may be condenſed,

SECT. VIII.

Sublimation.

As all fluids are volatile by heat, and conſequently capable of being ſeparated, in moſt caſes, from fixed matters, by the foregoing proceſs; ſo various ſolid bodies are ſubjected to a ſimilar treatment. Fluids are ſaid to *diſtil*, and ſolids to *ſublime;* though ſometimes both are obtained in one and the ſame operation. If the ſubliming matter concretes into

into a maſs, it is commonly called a *ſublimate;* if into a powdery form, *flowers.*

The principal ſubjects of this operation are, volatile alkaline ſalts; neutral ſals, compoſed of volatile alkalies and acids, as ſal ammoniac; the ſalt of amber, and flowers of benzoine; mercurial preparations; and ſulphur. Bodies of themſelves not volatile, are frequently made to ſublime by the mixture of volatile ones: thus iron is carried up by ſal ammoniac in the preparation of the *flores martiales*, or *ferrum ammoniacale.*

The fumes of ſolid bodies in cloſe veſſels riſe but little way, and adhere to that part of the veſſel where they concrete. Hence a receiver or condenſer is leſs neceſſary here than in the preceding operation; a ſingle veſſel, as a *matraſs*, or tall *vial*, or the like, being frequently ſufficient.

SECT. IX.

Expression.

THE *preſs* is chiefly made uſe of for forcing out the juices of ſucculent herbs and fruits, and the inſipid oils of the unctuous ſeeds and kernels.

The harder fruits, as quinces, require to be previouſly well beat or ground; but herbs are to be only moderately bruiſed. The ſubject is then included in a hair-bag, and preſſed betwixt wooden plates, in the common ſcrew-preſs, as long as any juice runs from it.

The expreſſion of oils is performed nearly in the ſame manner as that of juices; only here, iron-plates are ſubſtituted for the wooden ones there made uſe of. The ſubject is well pounded, and included in a ſtrong canvaſs bag, betwixt which and the plates of the preſs a haircloth is interpoſed.

The inſipid oils of all the unctuous ſeeds are obtained, uninjured, by this operation, if performed without the uſe of heat; which though it greatly promotes the extraction of the oil, at the ſame time impreſſes an ungrateful flavour, and increaſes its diſpoſition to grow rancid.

The oils expreſſed from aromatic ſubſtances generally carry with them a portion of their eſſential oil; hence the ſmell and flavour of the expreſſed oils of nutmegs and mace. They are very rarely found impregnated with any of the other qualities of the ſubject: oil of muſtard-ſeed, for inſtance, is as ſoft and void of acrimony as that of the almond, the pungency of the muſtard remaining entire in the cake left after the expreſſion.

SECT. X.

Exsiccation.

THERE are two general methods of exſiccating or drying moiſt bodies; in the one, their humid parts are exhaled by heat; in the other, they are imbibed or abſorbed by ſubſtances, whoſe ſoft and ſpongy texture adapts them to that uſe. Bodies intimately combined with, or diſſolved in a fluid, as recent vegetables and their juices, require the firſt: ſuch as are only ſuperficially mixed, as when earthy or indiſſoluble pow-

ders are grounded with water, are commodiouſly ſeparated from it by the ſecond.

Vegetables and their parts are uſually exſiccated by the natural warmth of the air: the aſſiſtance of a gentle artificial heat, may nevertheleſs, in general, be not only ſafely, but advantageouſly had recourſe to. By a moderate fire, even the more tender flowers may be dried, in a little time, without any conſiderable loſs, either of their odour or lively colour; which would both be greatly injured or deſtroyed by a more ſlow exſiccation in the air. Some plants indeed, particularly thoſe of the acrid kind, as horſeradiſh, ſcurvy-graſs, and arum, loſe their virtues by this proceſs, however carefully performed; but far the greater number retain them unimpaired, and often improved.

The thicker vegetable juices may be exſiccated by the heat of the ſun; or, where this is not ſufficient, by that of a water-bath, or an oven moderately warm. The thinner juices may be gently boiled till they begin to thicken, and then treated as the foregoing. This proceſs, termed *inſpiſſation* or *evaporation*, has been ſpoken of already. The juices of ſome plants, as arum root, briony root, orris root, wild cucumbers, &c. ſeparate, upon ſtanding for ſome time, into a thick part, which falls to the bottom; and a thin aqueous one, which ſwims above it: this laſt is to be poured off, and the firſt exſiccated by a gentle warmth. Preparations of this kind have been uſually called *fæculæ;* that of the cucumber, to be ſpoken of in its place, is the only one which practice now retains.

Indiſſoluble bodies, mixed with water into a thick conſiſtence, may be eaſily freed from the greateſt part of it, by dropping them on a *chalk-ſtone*, or ſome powdered chalk preſſed into a ſmooth maſs, which readily imbibes their humidity. Where the quantity of fluid is large, as in the edulcoration of precipitates, it may be ſeparated by decantation or filtration.

We before obſerved, that one of the principal circumſtances favouring fermentation, was a certain degree of moiſture. Exſiccation is therefore employed to diſſipate humidity, and render vegetables thereby leſs liable to thoſe changes produced by a kind of inſenſible fermentation.

SECT. XI.

Comminution.

Comminution is the bare reduction of ſolid coherent bodies into ſmall particles or powder. The methods of effecting this are various, according to the texture of the ſubject.

Dry friable bodies, or ſuch as are brittle and not very hard, and mixtures of theſe with ſomewhat moiſt ones, are eaſily *pulveriſed* in a *mortar*.

For very light, dry ſubſtances, reſins, and the roots of tenaceous texture, the mortar may in ſome caſes be previouſly rubbed with a little ſweet oil, or a few drops of oil be occaſionally added: this prevents the finer powder of the firſt from flying off, and the others from cohering under the peſtle. Camphor is commodiouſly powdered by rubbing it with a little rectified ſpirit of wine.

Tough ſubſtances, as woods, the peels of oranges and lemons, &c. are moſt conveniently *raſped;* and ſoft oily bodies, as nutmegs, paſſed through a *grater*.

The

The comminution of the harder minerals, as calamine, cryſtal, flint, &c. is greatly facilitated by *extinction;* that is, by heating them red-hot, and quenching them in water: by repeating this proceſs a few times, moſt of the hard ſtones become eaſily pulverable. This proceſs, however, is not to be applied to any of the alkaline or calcareous ſtones; leſt, inſtead of an inſipid powder, we produce an acrimonious calx or lime.

Some metals, as tin, though ſtrongly cohering in their natural ſtate, prove extremely brittle when heated, inſomuch as to be eaſily divided into ſmall particles by dexterous agitation. Hence the officinal method of pulveriſing tin, by melting it, and, at the inſtant of its beginning to return into a ſtate of ſolidity, briſkly ſhaking it in a wooden box. The comminution of metals, in this manner, is termed by the metallurgiſts *granulation.*

On a ſimilar principle, certain ſalts, as nitre, may be reduced into powder in large quantity, by diſſolving them in boiling water, ſetting the ſolution over a moderate fire, and keeping the ſalt conſtantly ſtirring during its exſiccation, ſo as to prevent its particles, disjoined by the fluid, from reuniting together into larger maſſes.

Powders are reduced to a great degree of fineneſs by *triturating*, or rubbing them, for a length of time, in a mortar. Such as are not diſſoluble in water, or injured by the admixture of that fluid, are moiſtened with it into the conſiſtence of a paſte, and *levigated* or ground on a flat ſmooth *marble* or *iron plate;* or where a large quantity is to be prepared at a time, in *mills* made for that uſe.

Comminution, though one of the moſt ſimple operations of pharmacy, has, in many caſes, very conſiderable effects. The reſinous purgatives, when finely triturated, are more eaſily ſoluble in the animal fluids, and conſequently prove more cathartic, and leſs irritating, than in their groſſer ſtate. Crude antimony, which, when reduced to a tolerably fine powder, diſcovers little medicinal virtue, if levigated to a great degree of ſubtility, proves a powerful medicine in many chronical diſorders.

By comminution, the heavieſt bodies may be made to float in the lightest fluids *, for a longer or ſhorter time, according to their greater or leſs degree of tenuity. Hence we are furniſhed with an excellent criterion of the fineneſs of certain powders, and a method of ſeparating the more ſubtile parts from the groſſer, diſtinguiſhed by the name of *elutriation*, or *waſhing over.*

SECT.

* Some attribute this effect to a diminution of the ſpecific gravity of the body; and, at the ſame time, ſuppoſe the peculiar virtues of certain medicines, particularly mercury, to be in great meaſure owing to their gravity. If theſe hypotheſes were juſt, it ſhould follow, that the mercurial preparations, by being finely comminuted, would loſe proportionably of their efficacy; and ſo indeed mercurius dulcis, for inſtance, has been ſuppoſed to do. But experience ſhows, that this is far from being the caſe; and that comminution by no means leſſens, but rather increaſes, its power: when reduced to a great degree of ſubtility, it paſſes readily into the habit, and operates, according to its quantity, as an alterative or a ſialogogue; whilſt in a groſſer form, it is apt to irritate the ſtomach and bowels, and run off by the inteſtines, without being conveyed into the blood.

SECT. XII.

Fusion.

FUSION is the reduction of ſolid bodies into a ſtate of fluidity by fire. Almoſt all natural ſubſtances, the pure earths and the ſolid parts of animals and vegetables excepted, melt in proper degrees of fire; ſome in a very gentle heat, whilſt others require its utmoſt violence.

Turpentine, and other ſoft reſinous ſubſtances, *liquefy* in a gentle warmth; wax, pitch, ſulphur, and the mineral bitumens, require a heat too great for the hand to ſupport; fixed alkaline ſalts, common ſalt, nitre, require a red, or almoſt white, heat to melt them; and glaſs, a full white heat

Among metallic ſubſtances, tin, biſmuth, and lead, flow long before ignition: antimony likewiſe melts before it is viſibly red-hot, but not before the veſſel is conſiderably ſo: the regulus of antimony demands a much ſtronger fire. Zinc begins to melt in a red heat; gold and ſilver require a low white heat; copper, a bright white heat; and iron, an extreme white heat.

One body, rendered fluid by heat, becomes ſometimes a menſtruum for another, not fuſible of itſelf in the ſame degree of fire. Thus red-hot ſilver melts on being thrown into melted lead leſs hot than itſelf: and thus if ſteel, heated to whiteneſs, be taken out of the furnace, and applied to a roll of ſulphur, the ſulphur inſtantly liquefying, occaſions the ſteel to melt with it; hence the *chalybs cum ſulphure* of the ſhops. This concrete, nevertheleſs, remarkably impedes the fuſion of ſome other metals, as lead; which when united with a certain quantity of ſulphur is ſcarce to be perfectly melted by a very ſtrong fire. Hence the method, deſcribed in its place, of purifying zinc; a metal upon which ſulphur has no effect from the lead ſo frequently mixed with it.

Sulphur is the only unmetallic ſubſtance which mingles in fuſion with metals. Earthy, ſaline, and other like matters, even the calces and glaſſes prepared from metals themſelves, float diſtinct upon the ſurface, and form what is called *ſcoria* or droſs. Where the quantity of this is large in proportion to the metal, it is moſt commodiouſly ſeparated by pouring the whole into a conical mould: the pure metal or *regulus*, though ſmall in quantity, occupies a conſiderable height in the lower narrow part of the cone; and when congealed, may be eaſily freed from the ſcoriæ by a hammer. The mould ſhould be previouſly greaſed, or rather ſmoked, to make the metal come freely out; and thoroughly dried and heated, to prevent the exploſion which ſometimes happens from the ſudden contact of melted metals with moiſt bodies.

SECT.

SECT. XIII.

Calcination.

BY calcination is underſtood the reduction of ſolid bodies, by the means of fire, from a coherent to a powdery ſtate, accompanied with a change of their quality; in which laſt reſpect this proceſs differs from comminution.

To this head belong the burning of vegetable and animal matters, otherwiſe called *uſtion*, *incineration*, or *concremation;* and the change of metals into a powder, which in the fire either does not melt, or *vitrifies*, that is, runs into glaſs.

The metals which melt before ignition, are calcined by keeping them in fuſion for ſome time. The free admiſſion of air is eſſentially neceſſary to the ſucceſs of this operation; and hence, when the ſurface of the metal appears covered with calx, this muſt be taken off or raked to one ſide, otherwiſe the remainder excluded from the air will not undergo the change intended. If any coal, or other inflammable matter which does not contain a mineral acid, be ſuffered to fall into the veſſel, the effect expected from this operation will not be produced, and part of what is already calcined will be *revived* or *reduced;* that is, it will return into its metallic form again.

Thoſe metals which require a ſtrong fire for fuſion, calcine with a much leſs heat than is ſufficient to make them flow. Hence the burning or *ſcorification* of ſuch iron or copper veſſels as are long expoſed to a conſiderable fire without defence from the air. Gold and ſilver are not calcinable by any degree of fire.

In calcination, the metals viſibly emit fumes; nevertheleſs the weight of the calx proves greater than that of the metal employed. The antimonial regulus gains about one eleventh part of its weight; zinc, ſometimes one-tenth; tin, above one-ſixth; and lead in its converſion into minium, often one-fourth.

The calcination of metallic bodies, gold, ſilver, and mercury excepted, is greatly promoted by nitre. This ſalt expoſed to the fire in conjunction with any inflammable ſubſtances, extricates their inflammable matter, and burſts with it into flame, accompanied with a hiſſing noiſe. This proceſs is uſually termed *deflagration* or *detonation.*

All the metallic calces and ſcoriæ are revived into their metallic ſtate by fuſion with any vegetable or animal inflammable matter. They are all more difficult of fuſion than the reſpective metals themſelves; and ſcarcely any of them, thoſe of lead and biſmuth excepted, can be made to melt at all, without ſome addition, in the ſtrongeſt fire that can be produced in the common furnaces. The additions called *fluxes*, employed for promoting the fuſion, conſiſt chiefly of fixed alkaline ſalts. A mixture of alkaline ſalt with inflammable matter, as powdered charcoal, is called a *reducing flux*, as contributing at the ſame time to bring the calx into fuſion, and to revive it into metal. Such a mixture is commonly prepared from one part of nitre and two parts of tartar, by grinding them well together, ſetting the powders on fire with a bit of coal or a red-hot iron, then covering the veſſel, and ſuffering them to deflagrate or burn till they are changed into a black alkaline coaly maſs. This is the common reducing flux

flux of the chemiſts, and is called from its colour the *black flux*. Metallic calces or ſcoriæ, mingled with twice their weight of this compound, and expoſed to a proper fire in a cloſe covered crucible, melt and reſume their metallic form; but though they received an increaſe of weight in the calcination, the revived metal is always found to weigh conſiderably leſs than the quantity from which the calx was made.

PART

PART II.

MATERIA MEDICA.

UNDER the Materia Medica, put in contradiſtinction to preparations and compoſitions, are comprehended not only thoſe ſimple ſubſtances employed as medicines which are furniſhed by nature, but likewiſe many of thoſe articles which are the product of art. To this head have been referred moſt of thoſe articles which the apothecary cannot with advantage prepare for himſelf, but which it will be more for his intereſt to purchaſe from thoſe who prepare them as articles of commerce.

Much pains have been beſtowed by the writers on the materia medica, in attempting to form uſeful arrangements of theſe articles. Some have arranged them according to their natural affinities; others according to their active conſtituent parts; and a third ſet, according to their real or ſuppoſed virtues: and it muſt be allowed, that ſome of theſe arrangements are not without conſiderable uſe, as throwing light upon the nature and qualities of particular articles; but no arrangement has yet been propoſed which is not liable to numerous objections. Accordingly, in the Pharmacopœias publiſhed by the Colleges of Phyſicians both of London and Edinburgh, the articles of the materia medica are arranged in alphabetical order; and the ſame plan is now alſo adopted in almoſt every Pharmacopœia of much eſtimation lately publiſhed on the continent of Europe. This plan, therefore, we ſhall here follow; ſubjoining to the name of each article which we think ought to enter ſuch a liſt, a ſhort view of its natural, medical, and pharmaceutical hiſtory. But to conjoin with this the advantages of other methods to the hiſtory of the materia medica given in alphabetical order, we ſhall add ſome of thoſe arrangements which ſeem to us to be the moſt uſeful, particularly thoſe of Dr Murray of Goettingen, and of Drs Cullen and Duncan of Edinburgh.

ABELMOSCHUS [*Brun.*] *Semina.*

Hibiſcus abelmoſchus Linnæi.

Muſk ſeed.

Theſe ſeeds are the product of a plant indigenous in Egypt, and in many parts both of the Eaſt and Weſt Indies. They are of a ſmall ſize and reniform ſhape; they are very remarkable from poſſeſſing a peculiar and very fragrant odour; the ſmell which they give out may be compared to that of muſk and amber conjoined: thoſe brought from the iſland of Martinico are generally eſteemed the moſt odorous, but we have ſeen ſome the product of hot-houſes in Britain, which, in point of flavour, ſeemed not inferior to any imported from abroad.

Theſe ſeeds, although introduced into ſome of the foreign pharmacopœias, have hitherto been uſed principally, if not only, as a perfume; and as their medical powers ſtill remain to be aſcertained, it is perhaps with propriety that hitherto no place has been given them in the liſt either of the London or Edinburgh Colleges. But their peculiar flavour, as well as other ſenſible qualities, point them out as a ſubject well deſerving a particular inveſtigation.

ABIES [*Gen.*] *Summitates, coni.*

Pinus abies & pinus picea Lin.

The common and the Scotch fir.

Theſe are large evergreen trees, frequent in northern climates. Tho' they have now no place either in the London or Edinburgh Pharmacopœias, yet they ſtand in ſeveral of the foreign ones, and are employed for different purpoſes in medicine. They are indigenous in ſome parts of Britain, but are chiefly to be met with as planted in the fields, where they grow with great luxuriance. From theſe trees, in different parts of Germany, the Straſburgh turpentine is extracted. The branches and the fruit, or cones, gathered about the end of autumn, abound with a reſinous matter, and yield, on diſtillation, their eſſential oil, and a liquor impregnated with a peculiar acid. It has accordingly by ſome been ſtyled *acidum abietis;* and when added to water, is thought to communicate to it both the taſte and other properties of tar-water. The acidum abietis was frequently preſcribed by the late Dr Hope in the Royal Infirmary of Edinburgh; and he thought that he found good effects from it in ſome inſtances of obſtinate coughs, particularly in thoſe caſes of chronic catarrh, which are often benefited by diuretics. The wood and tops of the fir-tree are ſometimes employed under the form of decoction or infuſion, with the view of promoting urine and ſweat; and theſe formulæ have been thought ſerviceable in healing internal ulcerations, particularly thoſe of the urinary paſſages.

Infuſions of the ſpruce-fir are much employed in Canada, with a view both to the prevention and cure of genuine ſcorbutus. And we are told, that with theſe intentions they were found beneficial in the Britiſh army at Boſton, when the ſcurvy prevailed among them in an alarming degree.

ABROTONUM [*Lond.*] *Folium.*
ABROTANUM [*Ed.*] *Herba.*

Artemiſia abrotanum Lin.

Southernwood.

This is a ſhrubby plant, clothed with very finely-divided leaves of a light-green colour. The flowers, which are very ſmall and yellowiſh, hang downwards, ſeveral together, from the middle of the branches to the top. It is not like ſome other ſpecies of the artemiſia indigenous in Britain; but although a native of warm climates, it readily bears the viciſſitudes of ours, and is eaſily cultivated in gardens;

gardens; from thence alone it is obtained when employed for medical purposes; the leaves fall off every winter, but the roots and stalks continue for many years.

Southernwood has a strong smell, which, to most people, is not disagreeable; it has a pungent, bitter, and somewhat nauseous taste. These qualities are very completely extracted by rectified spirit, and the tincture thus formed is of a beautiful green colour. They are less perfectly extracted by watery liquors, the infusion being of a light brown colour.

Southernwood, as well as some other species of the same genus, particularly the absinthium and santonicum, has been recommended as an anthelmintic; and it has also been sometimes used as a stimulant, detergent, and sudorific. It has likewise been employed externally in discutient and antiseptic fomentations. It has also been used under the form of lotion and ointment for cutaneous eruptions, and for preventing the hair from falling off. But although it still retains a place in the pharmacopœias both of London and Edinburgh, it does not enter any fixed formula in either of these works, and is at present very little employed in practice.

ABSINTHIUM MARITIMUM [*Lond.*] *Cacumen.*
Artemisia maritima Lin.
Sea-wormwood; the tops.

The leaves of sea-wormwood are much smaller than those of the common, and hoary on the upper side as well as the lower; the stalks also are hoary all over. It grows wild about salt marshes, and in several parts about the sea-coasts.—In taste and smell it is weaker and less unpleasant than the common wormwood. The tops of sea-wormwood formerly entered some of the compound distilled waters; but they are now rejected from these, and are very little employed in practice.

ABSINTHIUM VULGARE [*Lond. Ed.*] *Folia.*
Summitates florentes.
Artemisia absinthium Lin.
Common wormwood; the leaves and flowering tops.

The leaves of this sort of wormwood are divided into roundish segments, of a dull green colour above, and whitish underneath. It grows wild in several parts of Britain; about London, large quantities are cultivated for medicinal use: it flowers in June and July; and after having ripened its seeds, dies down to the ground, excepting a tuft of the lower leaves, which generally abides the winter.

Wormwood is a strong bitter; and was formerly much used as such, against weakness of the stomach, and the like, in medicated wines and ales; but its use with these intentions is exceptionable, on account of the ill relish and offensive smell with which it is accompanied. These it may be in part freed from by keeping, and totally by long coction, the bitter remaining entire. An extract made by boiling the leaves in a large quantity of water, and evaporating the liquor with a strong fire, proves a bitter sufficiently grateful, without any disgustful flavour. This extract, which had formerly a place in the Edinburgh pharmacopœia, though rejected from thence, is still retained in some of the best foreign ones; but it is probably less active than the strong tincture now directed by the Edinburgh college.

ACACIA VERA [*Brun.*]
Mimosa nilotica Lin.

Acacia is the inspissated juice of the unripe fruit of a large tree, the

ſame which produces the gum arabic.

This juice is brought to us from Egypt, in roundiſh maſſes, wrapt up in thin bladders. It is outwardly of a deep brown colour, inclining to black; inwardly of a reddiſh or yellowiſh brown; of a firm conſiſtence, but not very dry. It ſoon ſoftens in the mouth, and diſcovers a rough, not diſagreeable taſte, which is followed by a ſweetiſh reliſh. This inſpiſſated juice entirely diſſolves in watery liquors; but is ſcarce ſenſibly acted on by rectified ſpirit.

Acacia is a mild aſtringent medicine. The Egyptians give it in ſpitting of blood, to the quantity of a dram, diſſolved in any convenient liquor; and repeat this doſe occaſionally: they likewiſe employ it in collyria for ſtrengthening the eyes, and in gargariſms for quinſeys. Among us it is little uſed, and is rarely met with in the ſhops. What is uſually ſold for the Egyptian acacia, is the inſpiſſated juice of unripe ſloes: this is harder, heavier, of a darker colour, and ſomewhat ſharper taſte, than the true ſort. In ſeveral pharmacopœias, as in the Suecica and Genevenſis, this article has a place under the title of Acacia Noſtras.

ACETOSA [*Lond. Ed.*] *Folium.*
Rumex Acetoſa Lin.
Sorrel; the leaf.

Sorrel grows wild in fields and meadows throughout England. The leaves have a reſtringent acid taſte, without any ſmell or particular flavour: their medical effects are, to cool, quench thirſt, and promote the urinary diſcharge: a decoction of them in whey affords an uſeful and agreeable drink in febrile or inflammatory diſorders: and is recommended by Boerhaave to be uſed in the ſpring as one of the moſt efficacious aperients and detergents. Some kinds of ſcurvies have yielded to the continued uſe of this medicine: the Greenlanders, who are very ſubject to this diſtemper, are ſaid to employ, with good ſucceſs, a mixture of the juices of ſorrel and of ſcurvygraſs.

The roots of ſorrel have a bitteriſh auſtere taſte, without any acidity: they are ſaid to be deobſtruent and diuretic. They had formerly a place in the Edinburgh pharmacopœia, but are now rejected from it. They are ſtill, however, retained in the pharmacopœia Suecica, and ſome other of the beſt foreign ones; but they have little other effect than that of giving a reddiſh colour to the articles with which they are combined.

The ſeeds of this plant were formerly uſed in diarrhœas and dyſenteries; but have long been ſtrangers to the ſhops, and are now juſtly expunged both from the London and Edinburgh pharmacopœias, and indeed from moſt of the foreign ones. They have no remarkable ſmell, and ſcarcely any taſte.

ACETUM VINI [*Ed.*]

Vinegar: an acid produced from fermented vinous liquors by a ſecond fermentation.

Wine vinegar is conſiderably purer than that prepared from malt liquors; the latter, however acid and fine, contains a large portion of a viſcous mucilaginous ſubſtance; as is evident from the ropineſs and ſlimineſs which this kind of vinegar is very much ſubject to; the ſtronger and more ſpirituous the wine, the better and ſtronger vinegar it yields. The French vinegars are ſaid by Geoffrey to ſaturate above one thirty-fifth of their weight of fixed alkaline ſalt, and ſome of them no leſs than one-twelfth; the beſt of the German vinegars little more than one-fortieth.

Vinegar is a medicine of excel-

lent

lent uſe in all kinds of inflammatory and putrid diſorders, either internal or external: in ardent, bilious fevers, peſtilential and other malignant diſtempers, it is recommended by Boerhaave as one of the moſt certain ſudorifics. Weakneſs, fainting, vomiting, hiccup, hyſterical and hypochondriacal complaints, have been frequently relieved by vinegar applied to the mouth and noſe, or received into the ſtomach. It has been uſed internally in rabies canina. It is often uſefully employed as a powerful menſtruum for extracting the virtues of other articles.

ACIDUM VITRIOLICUM. [*Lond. Ed.*]

Vitriolic acid.

This is inſerted in the Materia Medica on account of its being generally made, not by the apothecary, but by the trading chemiſt, and moſt commonly from ſulphur. The operation is ſaid to be performed in leaden veſſels, ſometimes 20 feet high and 10 broad; with an eighth-part of nitre to ſupply the abſence of the external air, and ſome water to condenſe the ſteams. It is concentrated and conſiderably purified by evaporation. It is then colourleſs, without ſmell, extremely corroſive, very fixed, the moſt ponderous of all unmetallic fluids. Its ſpecific gravity in its true ſtate, according to the London College, ſhould be to that of diſtilled water as 1.850 to 1.000. It is powerfully attractive of water from the air, and in uniting with water produces a great degree of heat. It poſſeſſes the general properties of acids in an eminent degree.

On account of its fluidity, it is not uſed as a corroſive. Blended with unctuous matter in the proportion of one to eight, it is applied in itch and other chronic eruptions, and likewiſe as a rubefacient in local palſy and rheumatiſm. Diluted with water, it ſhows conſiderable action on the human calculus out of the body; and therefore has been propoſed internally in that diſeaſe, particularly where ſurgical operation is improper. As checking fermentation, as well as being aſtringent and tonic, it is much uſed in morbid acidity, relaxation, and weakneſs of the ſtomach. Its effects are propagated over the ſyſtem; and hence its eſtabliſhed uſe in paſſive hæmorrhagies, gleets, and fevers of the typhous kind. It is alſo uſed internally in itch and other chronical eruptions; and when given to nurſes having the itch, it is ſaid to cure both themſelves and their children. As combined with ardent ſpirit, with different metallic ſubſtances, &c. it enters ſeveral articles afterwards to be mentioned.

ACONITUM [*Lond.*] *Herba*; [*Ed.*] *Folia.*

Aconitum napellus Lin.

Large blue Wolfsbane, or Monkſhood; the herb and leaves.

This is a perennial plant, growing naturally in various mountainous parts of Europe. The juice has a diſagreeable ſmell and an acrid taſte, becoming leſs acrid on inſpiſſation. It has long been conſidered as one of the moſt active of the vegetable poiſons, and when taken to any conſiderable extent, it occaſions ſickneſs at ſtomach, vomiting, purging, vertigo, delirium, fainting, cold ſweats, convulſions, and even death. Dr Stoerk of Vienna was probably the firſt who employed it for medical purpoſes; and he recommended it to the attention of other practitioners, in a treatiſe publiſhed in 1762. He repreſents it as a very effectual remedy in glandular ſwellings, venereal nodes, anchyloſis, ſpina ventoſa, itch, amauroſis, gouty and rheumatic pains, intermittent

fevers, and convulſive diſorders. Stoerk's formula was two grains of the inſpiſſated juice rubbed down with two drams of ſugar. He began with ten grains of this powder night and morning, and increaſed it gradually to ſix grains of the inſpiſſated juice twice a day. Others have uſed a tincture made of one part of the dry leaf, and ſix parts of ſpirit of wine, in the doſe of forty drops. But although the aconitum has now a place in the Pharmacopœias both of the London and Edinburgh Colleges, and likewiſe in moſt of the other modern Pharmacopœias, yet it has by no means anſwered thoſe expectations which might have been formed from Dr Stoerk's account. It is, however, unqueſtionably a very active, and in ſome caſes an uſeful article.

ACORUS, vide CALAMUS AROMATICUS.

ÆRUGO [*Ed.*] Verdegris.

This is a preparation of copper, made chiefly at Montpelier in France, by ſtratifying copperplates with grape ſtalks that have been impregnated with a fermented vegetable acid: in a few days, the plates are found covered with a pale green downy matter, which is ſcraped off from the copper, and the proceſs again repeated. The appellation therefore of Cuprum Acetatum beſtowed upon it by ſome, gives a proper idea of its conſtituent parts.

Verdegris, as it comes to us, is generally mingled with ſtalks of the grape; they may be ſeparated, in pulverization, by diſcontinuing the operation as ſoon as what remains ſeems to be almoſt entirely compoſed of them.

Verdegris is rarely or never uſed internally. Some writers highly extol it as an emetic, and ſay, that a grain or two being taken acts as ſoon as received into the ſtomach; but its uſe has been too often followed by dangerous conſequences to allow of its employment. Verdegris applied externally, proves a gentle detergent and eſcharotic, and ſerves to take down fungous fleſh ariſing in wounds. With theſe intentions it is an ingredient in different officinal compoſitions, particularly in the aqua. ſapphar. et ung. ex ærug.

ADEPS SUILLA [*Lond.*] *Axungia porcina* [*Ed.*]

Hogs-lard.

In hogs-lard we have a very pure animal fat, almoſt entirely free from any peculiar impregnation, and of a ſoft conſiſtence. Hence it is a very uſeful emolient for relaxing thoſe parts to which it is applied; and it is alſo a very convenient article for giving the proper conſiſtence to ointments, plaſters, and liniments. Indeed this and the ſevum ovillum or mutton-ſuet, are the only fats now retained by the London and Edinburgh Colleges, although formerly more than twenty different fats entered ſome liſts of the materia medica. Each particular fat was then ſuppoſed to poſſeſs peculiar properties; but for this there is probably no foundation: even theſe retained are now leſs employed than before, as it has been imagined that a proper conſiſtence of any kind may be more certainly obtained by determined proportions of wax and oil; but as theſe articles are more expenſive, hogs-lard and mutton-ſuet are often ſubſtituted for them by the apothecaries.

AGARICUS [*Roſs.*] *Boletus pini laricis Lin.*

Agaric; a fungus growing on old larch trees.

This fungus is an irregular ſpongy ſubſtance, extremely light, and

of an uniform ſnowy whiteneſs, (except the cortical part, which is uſually taken off before the agaric is brought into the ſhops). It cuts freely with a knife, without diſcovering any hardneſs or grittineſs, and readily crumbles betwixt the fingers into a powder. It has no remarkable ſmell; its taſte is at firſt ſweetiſh; but on chewing for a ſhort time, it proves acrid, bitter, and nauſcous.

Agaric was formerly in great eſteem as a cathartic, but the preſent practice has almoſt entirely rejected its uſe. It is now rejected both by the London and Edinburgh Colleges, but it ſtill retains a place in moſt of the new foreign Pharmacopœias. It operates exceeding ſlowly, inſomuch that ſome have denied it to have any purgative virtue at all. Given in ſubſtance, it almoſt always occaſions a nauſea, not unfrequently vomiting, and ſometimes exceſſive tormina of the bowels; theſe effects are attributed to its light farinaceous matter adhering to the coats of the inteſtines, and producing a conſtant irritation. The beſt preparation of agaric ſeems to be an extract made with water, in which fixt alkaline ſalt has been diſſolved; or with vinegar or wine: the firſt is ſaid by Boulduc, and the two latter by Neumann, to prove an effectual and ſafe purgative. Nevertheleſs, this is at beſt a precarious medicine, of which we ſtand in no manner of need.

AGARICUS CHIRURGORUM: [*Ed.*]

Boletus igniarius Lin.

Female agaric, or agaric of the oak, called, from its being very eaſily inflammable, Touchwood, or Spunk.

This fungus is frequently met with, on different kinds of trees, in England; and is ſaid to have been ſometimes brought into the ſhops mixt with the true agaric of the larch: from this it is eaſily diſtinguiſhable by its greater weight, duſky colour, and mucilaginous taſte void of bitterneſs. The medullary part of this fungus, beaten ſoft, and applied externally, has been much celebrated as a ſtyptic; and ſaid to reſtrain not only venal but arterial hæmorrhagies, without the uſe of ligatures. It does not appear, however, to have any real ſtyptic power, or to act any otherwiſe than dry lint, ſponge, or other ſoft fungous applications.

AGNUS CASTUS [*Brun.*] *Semen.*

Vitex agnus caſtus Lin.

The chaſte tree; its ſeeds.

This is a ſmall tree, or rather ſhrub, growing ſpontaneouſly in Italy, &c. and raiſed with us in gardens. Its fruit, which is about the ſize of a pepper-corn, contains four longiſh ſeeds, which are ſaid to be of an aromatic ſmell, and an acrid bitteriſh taſte, but which are found on examination to be almoſt inodorous and inſipid. Theſe ſeeds have been celebrated as antiphrodiſiacs, and were formerly much uſed by the monks for allaying the venereal appetite; but experience does not warrant their having any ſuch virtues.

AGRIMONIA [*Roſs.*] *Herba.*

Agrimonia eupatoria Lin.

Agrimony; the plant.

This is a common plant in hedges and the borders of fields. The leaves have an herbaceous, ſomewhat acrid, roughiſh taſte, accompanied with an aromatic flavour. Agrimony was ſuppoſed to be aperient, detergent, and to ſtrengthen the tone of the viſcera: hence it has been recommended in ſcorbutic diſorders, in debility and laxity of the inteſtines, &c.

Digeſted in whey, it affords a diet-drink, not ungrateful to the palate or ſtomach, which is uſed by ſome in the ſpring. But it is very little employed by regular practitioners, it hardly enters the ſhops of the apothecaries, and has no place in the liſt either of the London or Edinburgh Colleges.

ALCHEMILLA [*Brun.*] *Folia.*
Alchemilla vulgaris Lin.
Ladies mantle; the leaves.

This grows wild in many parts of England, but is rarely met with about London: the leaves ſeem as if plaited or folded together, ſo as to have given occaſion to the Engliſh name of the plant. The leaves of alchemilla diſcover to the taſte a moderate aſtringency, and were formerly much eſteemed in ſome female weakneſſes and in fluxes of the belly. They are now rarely made uſe of; though both the leaves and roots might doubtleſs be of ſervice in caſes where mild aſtringents are required.

ALKEKENGI [*Brun.*] *Baccæ.*
Phyſalis alkekengi Lin.
Winter cherry; the berries.

This is a low, branched ſhrub, bearing leaves like thoſe of night-ſhade; with white flowers, which ſtand ſingle at the joints. The flower-cup changes into a membranous cover, which at length burſts and diſcovers a fruit of a fine red colour, about the ſize of a common cherry. The fruit ripens in October, and continues frequently to the middle of December. This plant grows wild in ſome parts of France, Germany, &c. the beauty and lateneſs of its fruit have gained it a place in our gardens.

Winter cherries have in general been repreſented by moſt writers to be extremely bitter: but, as Haller juſtly obſerves, the cherry itſelf, if carefully freed from the cover (which is very bitter and pungent), has merely a ſubacid taſte. They were formerly highly recommended as detergent, aperient, diuretic, and for expelling gravel; four, five, or more of the cherries are directed for a doſe, or an ounce of the expreſſed juice. Mr Ray tells us of a gouty perſon who was cured and kept free from returns of his diſorder, by taking eight of theſe cherries at each change of the moon; theſe occaſioned a copious diſcharge of extremely fetid urine.

They have not, however, ſupported this character with others; inſomuch that they have now no place either in the London or Edinburgh Pharmacopœias, and are very little employed by any Britiſh practitioner.

ALLIARIA [*Brun.*] *Herba.*
Eryſimum alliaria Lin.
Sauce alone, or jack-by-the-hedge; the plant.

This is common in hedges and ſhady waſte-places, flowering in May and June. The leaves have a bitteriſh acid taſte; and, when rubbed between the fingers, emit a ſtrong ſmell, approaching to that of garlick. They have been recommended internally as ſudorifics and deobſtruents, ſomewhat of the nature of garlick, but much milder; and externally as antiſeptics in gangrenes and cancerous ulcers. Hildanus uſed to gather the herb for theſe laſt purpoſes in the ſpring, and expoſe it for a day to the action of a dry air in a ſhady place; being then committed to the preſs, it yielded a juice poſſeſſing the ſmell and taſte of the alliaria: this, he informs us, with a little oil on the ſurface, keeps in perfection for years; whereas the herb in ſubſtance ſoon loſes its virtue in keeping. At preſent they are very little employed either in medicine or ſurgery.

ALLIUM

ALLIUM [*Lond. Ed.*] *radix.*
Allium ſativum Lin.
Garlick; the root.

Theſe roots are of the bulbous kind, of an irregularly roundiſh ſhape, with ſeveral fibres at the bottom: each root is compoſed of a number of leſſer bulbs, called cloves of garlick, incloſed in one common membranous coat, and eaſily ſeparable from each other. All the parts of this plant, but more eſpecially the roots, have a ſtrong offenſive ſmell, and an acrimonious almoſt cauſtic taſte. The root applied to the ſkin inflames, and often exulcerates the part. Its ſmell is extremely penetrating and diffuſive; when the root is applied to the feet, its ſcent is ſoon diſcoverable in the breath; and when taken internally, its ſmell is communicated to the urine, or the matter of an iſſue, and perſpires through the pores of the ſkin.

This pungent root warms and ſtimulates the ſolids, and attenuates tenacious juices. Hence, in cold leucophlegmatic habits, it proves a powerful expectorant, diuretic; and, if the patient be kept warm, ſudorific; it has alſo been by ſome ſuppoſed to be emmenagogue. In catarrhous diſorders of the breaſt, flatulent colics, hyſterical, and other diſeaſes proceeding from laxity of the ſolids, it has generally good effects: it has likewiſe been found ſerviceable in ſome hydropic caſes. Sydenham relates, that he has known the dropſy cured by the uſe of garlick alone; he recommends it chiefly as a warm ſtrengthening medicine in the beginning of the diſeaſe.

Garlick is with ſome alſo a favourite remedy in the cure of intermittents; and it has been ſaid to have ſometimes ſucceeded in obſtinate quartans, after the Peruvian bark had failed, particularly when taken to the extent of one or two cloves daily in a glaſs of brandy or other ſpirits.

The liberal uſe of garlick is apt to occaſion headachs, flatulencies, thirſt, febrile heats, inflammatory diſtempers, and ſometimes diſcharges of blood from the hæmorrhoidal veſſels. In hot bilious conſtitutions, where there is already a degree of irritation, and where there is reaſon to ſuſpect an unſound ſtate of the viſcera, this ſtimulating medicine is manifeſtly improper, and never fails to aggravate the diſtemper.

The moſt commodious form for taking garlick, a medicine to moſt people not a little unpleaſant, is that of a bolus or pill. Infuſions in ſpirit, wine, vinegar, and water, although containing the whole of its virtues, are ſo acrimonious, as to be unfit for general uſe. A ſyrup and oxymel of it were formerly kept in the ſhops; but it does not now enter any officinal preparation in our pharmacopœias; and it is proper that even the pills ſhould always be an extemporaneous preſcription, as they ſuffer much from keeping.

Garlick made into an ointment with oils, &c. and applied externally, is ſaid to reſolve and diſcuſs cold tumors, and has been by ſome greatly eſteemed in cutaneous diſeaſes. It has likewiſe ſometimes been employed as a repellent. When applied under the form of a poultice to the pubis, it has ſometimes proved effectual in producing a diſcharge of urine, when retention has ariſen from a want of due action of the bladder: and ſome have recommended, in certain caſes of deafneſs, the introduction of a ſingle clove, wrapt in thin muſlin or gauze, into the meatus auditorius. Sydenham aſſures us, that among all the ſubſtances which occaſion a derivation or revulſion from the head, none operates more powerfully than garlick applied to the ſoles of the feet: hence he

he was led to make use of it in the confluent small pox; about the eight day after the face began to swell, the root cut in pieces, and tied in a linen cloth, was applied to the soles, and renewed once a-day till all danger was over.

ALNUS [*Rost.*] *Folia.*
Betula alnus Lin.
The leaves and bark of the alder tree.

These have a bitter styptic disagreeable taste. The bark is recommended by some in intermittent fevers; and a decoction of it, in gargarisms, for inflammations of the tonsils; but it is little employed in modern practice,

ALOE. [*Lond. Ed.*]
Aloe perfoliata Lin.
Aloes.

Aloe is the inspissated juice of certain plants of the same name. The ancients distinguished two sorts of aloes: the one was pure and of a yellowish colour inclining to a red, resembling the colour of a liver, and thence named hepatic; the other was full of impurities, and hence supposed to be only the dross of the better kind. At present, various sorts are met with in the shops; which are distinguished either from the places from whence they are brought; from the species of the plants, or from some differences in the juices themselves. Three different kinds may be mentioned, although two of them only have now a place in our pharmacopœias.

(1) Aloe Socotorina [*Lond. Ed.*]
Socotorine aloes.

This article is brought from the island Socotora in the Indian ocean, wrapt in skins; it is obtained from the *Variety* ξ *of aloe perfoliata Lin.* This sort is the purest of the three: it is of a glossy surface, clear, and in some degree pellucid; in the lump, of a yellowish red colour, with a purple cast; when reduced to powder, of a bright golden colour. It is hard and friable in the winter, somewhat pliable in summer, and grows soft betwixt the fingers. Its taste is bitter, accompanied with an aromatic flavour, but insufficient to prevent its being disagreeable; the smell is not very unpleasant, and somewhat resembles that of myrrh.

(2) Aloe Barbadensis [*Lond.*] HEPATICA [*Ed.*]
Barbadoes, or hepatic aloes.

Hepatic aloes is not so clear and bright as the foregoing sort: it is also of a darker colour, more compact texture, and for the most part drier. Its smell is much stronger and more disagreeable: the taste intensely bitter and nauseous, with little or nothing of the fine aromatic flavour of the Socotorine. The best hepatic aloes comes from Barbadoes in large gourd shells; an inferior sort of it (which is generally soft and clammy) is brought over in casks.

(3) Aloe caballina.
Fetid, caballine, or horse aloes.

This sort is easily distinguished from both the foregoing, by its strong rank smell; although, in other respects, it agrees pretty much with the hepatic, and is not unfrequently sold in its stead. Sometimes the caballine aloes is prepared so pure and bright, as not to be distinguishable by the eye even from the Socotorine; but its offensive smell, of which it cannot be divested, readily betrays it. It has not now a place in the list of almost any modern pharmacopœia, and is employed chiefly by farriers.

All the sorts of aloes dissolve in pure spirit, proof spirit, and proof spirit

ſpirit diluted with half its weight of water; the impurities only being left. They diſſolve alſo by the aſſiſtance of heat in water alone; but as the liquor grows cold, the reſinous part ſubſides, the gummy remaining united with the water. The hepatic aloes is found to contain more reſin and leſs gum than the Socotorine, and this than the caballine. The reſins of all the ſorts, purified by ſpirit of wine, have little ſmell: that obtained from the Socotorine has ſcarce any perceptible taſte; that of the hepatic, a ſlight bitteriſh reliſh; and the reſin of the caballine, a little more of the aleotic flavour. The gummy extracts of all the ſorts are leſs diſagreeable than the crude aloes: the extract of Socotorine aloes has very little ſmell, and is in taſte not unpleaſant; that of the hepatic has a ſomewhat ſtronger ſmell, but is rather more agreeable in taſte than the extract of the Socotorine: the gum of the caballine retains a conſiderable ſhare of the peculiar rank ſmell of this ſort of aloes, but its taſte is not much more unpleaſant than that of the extracts made from the two other ſorts.

Aloes is a ſtimulating cathartic bitter: if given in ſo large a doſe as to purge effectually, it often occaſions an irritation about the anus, and ſometimes a diſcharge of blood. Small doſes of it frequently repeated, not only cleanſe the primæ viæ, but likewiſe warm the habit, quicken the circulation, and promote the uterine and hemorrhoidal fluxes. This medicine is particularly ſerviceable in habitual coſtiveneſs, to perſons of a phlegmatic temperament and ſedentary life, and where the ſtomach is oppreſſed and weakened: in dry bilious habits aloes prove injurious, immoderately heating the body, and inflaming the bowels.

The juice is likewiſe, on account of its bitterneſs, ſuppoſed to kill worms, either taken internally, or applied in plaſters to the umbilical region. It is alſo celebrated for reſtraining external hemorrhagies, and cleanſing and healing wounds and ulcers.

The ancients gave aloes in much larger doſes than is cuſtomary at preſent. Dioſcorides orders half a dram or a dram for gently looſening the belly; and three drams when intended to have the full effect of a cathartic. But modern practice rarely exceeds a ſcruple, and limits the greateſt doſe to two ſcruples. For the common purpoſes of this medicine, ten or twelve grains ſuffice: taken in theſe or leſs quantities, it acts as a gentle ſtimulating eccoprotic, capable of removing, if duly continued, very obſtinate obſtructions.

Aloes are much leſs frequently uſed to operate as a purgative than merely to obviate coſtiveneſs; and indeed their purgative effect is not increaſed in proportion to the quantity that is taken. Perhaps the chief objection to aloes, in caſes of habitual coſtiveneſs, is the tendency which they have to induce and augment hæmorrhoidal affections And with thoſe, liable to ſuch complaints, they can ſeldom be employed. Their purgative effect ſeems chiefly to depend on their proving a ſtimulus to the rectum.

Some are of opinion, that the purgative virtue of aloes reſides entirely in its reſin: but experience has ſhown, that the pure reſin has little or no purgative quality; and that the gummy part ſeparated from the reſinous, acts more powerfully than the crude aloes. If the aloes indeed be made to undergo long coction in the preparation of the gummy extract, its cathartic power will be conſiderably leſſened, not from the ſeparation of the reſin, but from an alteration made in the juice itſelf by the

the heat. The ſtrongeſt vegetable cathartics become mild by a like treatment, without any remarkable ſeparation of their parts.

Socotorine aloes, as already obſerved, contain more gummy matter than the hepatic; and hence are likewiſe found to purge more, and with greater irritation. The firſt ſort, therefore, is moſt proper where a ſtimulus is required, as for promoting or exciting the menſtrual flux; whilſt the latter is better calculated to act as a common purge. It is ſuppoſed that the vulnerary and balſamic virtues of this juice reſide chiefly in the reſin; and hence that the hepatic aloes, which is moſt reſinous, is moſt ſerviceable in external application.

Aloes enter many of the officinal preparations and compoſitions, particularly different pills and tinctures. And according to the particular purpoſes for which theſe are intended, ſometimes the Barbadoes, ſometimes the ſocotorine aloes, are the moſt proper. But of theſe we ſhall afterwards have occaſion to ſpeak.

ALTHEA [*Lond. Ed.*] *Radix, folium.*

Althea officinalis Lin.

Marſh-mallows. The leaf and root.

This plant grows wild in marſhes, and other moiſt places, in ſeveral parts of England; though frequently cultivated for medicinal uſe in gardens. All the parts of it have a ſlimy taſte, and abound with a ſoft mucilaginous ſubſtance, which is readily extracted by water; the mucilage of the roots appears to be the ſtrongeſt; and hence this part is generally made uſe of in preference to the others.

This plant has the general virtues of an emollient medicine; and proves ſerviceable where the natural mucus of the inteſtines is abraded. It is chiefly recommended in ſharp defluxions upon the lungs, hoarſeneſs, dyſenteries, and likewiſe in nephritic and calculous complaints; not, as ſome have ſuppoſed, that this medicine has any peculiar power of diſſolving or expelling the calculus; but as, by lubricating and relaxing the veſſels, it procures a more free and eaſy paſſage. Althæa root is ſometimes employed externally for ſoftening and maturating hard tumors: chewed, it is ſaid to give eaſe in difficult dentition of children.

This root gave name to an officinal ſyrup [*Lond. Ed.*] decoction [*Ed.*] and ointment [*Lond.*] and was likewiſe an ingredient in the compound powder of gum tragacanth and the oil and plaſter of mucilages [*Lond.*] though it does not appear to communicate any particular virtue to the two laſt, its mucilaginous matter not being diſſoluble in oils.

And of all theſe formulæ the ſyrup alone is now retained.

ALUMEN [*Lond. Ed.*]

Alum.

Alum is a ſalt artificially produced from certain minerals, by calcining and expoſing them to the air; after which the alum is elixated by means of water. The largeſt quantities are prepared in England, Germany, and Italy.

This ſalt is of a white or pale red colour, of an auſtere ſtyptic taſte, accompanied with a nauſeous ſweetiſhneſs. It diſſolves in about twelve times its weight of water; and concretes again, upon duly evaporating the ſolution, into ſemi-tranſparent cryſtals, of an octagonal figure. Expoſed to the fire, it eaſily melts, bubbles up in bliſters, emits a copious phlegm, and then turns into a light ſpongy white maſs, conſiderably more acrid than the alum was at firſt: this urged with a ſtronger fire, yields

yields a ſmall quantity of acid ſpirit, ſimilar to that obtained by the ſame means from vitriol; the part which remains, if the heat has been ſufficiently intenſe and long continued, is an inſipid white earth, readily ſoluble in every kind of acid.

Solutions of alum coagulate milk, change the blue colour of vegetable juices into a red or purple, and turn an infuſion of galls turbid and whitiſh. Upon adding fixt alkaline ſalts to theſe ſolutions, the earth of the alum is precipitated, its acid uniting with the alkali into a neutral ſaline concrete ſimilar to vitriolated tartar.

Alum is a powerful aſtringent: it is reckoned particularly ſerviceable for reſtraining hæmorrhagies, and immoderate ſecretions from the blood; but leſs proper in inteſtinal fluxes. In violent hæmorrhagies, it may be given in doſes of fifteen or twenty grains, and repeated every hour or half hour till the bleeding abates: in other caſes, ſmaller doſes are more adviſable; large ones being apt to nauſeate the ſtomach, and occaſion violent conſtipations of the bowels. It is uſed alſo externally, in aſtringent and repellent lotions and collyria. Burnt alum taken internally has been highly extolled in caſes of colic. In ſuch inſtances, when taken to the extent of a ſcruple for a doſe, it has been ſaid gently to move the belly, and give very great relief from the ſevere pain.

Its officinal preparations are, for internal uſe, *pulvis ſtypticus*, and *aqua ſtyptica* [*Ed.*] for external applications, the *aqua aluminis*, and *coagulum aluminis* [*Lond.*] and *alumen uſtum* [*Lond. Ed.*] which laſt is no other than the alum dried by fire, or freed from the watery moiſture, which, like other ſalts, it always retains in its cryſtalline form. By this loſs of its water it becomes ſharper, ſo as to act as a ſlight eſcharotic; and it is chiefly with this intention that it is employed in medicine, being very rarely taken internally.

AMBRAGRISEA [*Dan.*]
Ambra ambroſiaca Lin.
Ambergris.

Ambergris is a bituminous ſubſtance of a greyiſh or aſh colour, intermingled with yellowiſh and blackiſh ſpecks or veins: it is uſually met with in little opaque rugged maſſes, very light, of a looſe texture, friable in a certain degree like wax; they break rough and uneven, and not unfrequently contain pieces of ſhells, bones of fiſhes, and other like matters. This concrete is found floating on the ſurface of the ſea, or thrown out upon the ſhores; the greateſt quantities are met with in the Indian ocean; pieces have likewiſe been now and then diſcovered in our own and other northern ſeas. Dr Schwediauer ſuppoſes it to be an animal product, from its being ſo frequently found in the belly of the *phyſeter macrocephalus Lin.*

Pure ambergris ſoftens between the fingers; melts in a ſmall degree of heat into the appearance of oil, and in a ſtronger heat proves almoſt totally volatile. Warmed a little, it emits a peculiar fragrant ſmell; ſet on fire, it ſmells like burning amber. It diſſolves, though difficultly, in ſpirit of wine and eſſential oils; but not in expreſſed oils or in water.

Ambergris is in general the moſt agreeable of the perfumes, and rarely accompanied with the inconveniences which other ſubſtances of this claſs frequently occaſion. It has been looked upon as an high cordial, and eſteemed of great ſervice in all diſorders of the head, and in nervous complaints; a ſolution of it in a ſpirit diſtilled from roſes, ſtands recommended by Hoffman as one of the moſt efficacious corroborants of the nervous ſyſtem. The Orientals

rientals entertain an high opinion of the aphrodisiac virtues of this concrete; and likewise suppose that the frequent use of it conduces to long life: But it is now very little employed in practice, and has no place either in the London or Edinburgh Pharmacopœias; yet its sensible qualities give reason for believing that it may be a more active medicine than some articles which are retained; although credit is by no means to be paid to all that has been said with regard to it.

AMMONIACUM GUMMI RESINA [*Lond. Ed.*]

Ammoniacum, the gum-resin.

Ammoniacum is a concrete gummy resinous juice, brought from the East Indies, usually in large masses, composed of little lumps or tears, of a milky colour, but soon changing, upon being exposed to the air, of a yellowish hue. We have no certain account of the plant which affords this juice; the seeds usually found among the tears resemble those of the umbelliferous class. It has been, however, alleged, and not without some degree of probability, that it is an exudation from a species of the ferula, another species of which produces the assafœtida. The plant producing it is said to grow in Nubia, Abyssinia, and the interior parts of Egypt. Such tears as are large, dry, free from little stones, seeds, or other impurities, should be picked out and preferred for internal use; the coarser kind is purified by solution and colature, and then carefully inspissating it; unless this be artfully managed, the gum will lose a considerable deal of its more volatile parts. There is often vended in the shops, under the name of strained gum ammoniacum, a composition of ingredients much inferior in virtue.

Ammoniacum has a nauseous sweet taste, followed by a bitter one; and a peculiar smell, somewhat like that of galbanum, but more grateful: it softens in the mouth, and grows of a white colour upon being chewed. Thrown upon live coals, it burns away in flame. it is in some degree soluble in water and in vinegar, with which it assumes the appearance of milk; but the resinous part, amounting to about one half, subsides on standing.

Ammoniacum is an useful deobstruent; and frequently prescribed for opening obstructions of the abdominal viscera, and in hysterical disorders occasioned by a deficiency of the menstrual evacuations. It is likewise supposed to act upon the pulmonary vessels; and to prove of considerable service in some kinds of asthmas, where the lungs are oppressed by viscid phlegm: with this intention, a solution of gum ammoniacum in vinegar of squills proves a medicine of great efficacy, though not a little unpleasant. In long and obstinate colics proceeding from viscid matter lodged in the intestines, this gummy-resin has produced happy effects, after purges and the common carminatives had been used in vain. Ammoniacum is most commodiously taken in the form of pills: about a scruple may be given every night, or oftener. Externally, it is supposed to soften and ripen hard tumours: a solution of it in vinegar stands recommended by some for resolving even scirrhous swellings. A plaster made of it and squill-vinegar, is recommended by some in white swellings. A dilute mixture of the same is likewise rubbed on the parts, which are also fumigated with the smoke of juniper-berries.

In the shops is prepared a solution of it in pennyroyal water, called, from its milky colour, *lac ammoniaci* [*Lond.*] It is an ingredient also in the *pil. scillit.* [*Ed.*]

A-

AMYGDALA AMARA, DULCIS [*Lond. Ed.*] *Nucleus.*

Amygdalus communis Lin. Var γ. β.

Bitter and ſweet almond. The kernel.

The almond is a flattiſh kernel, of a white colour, covered with a thin browniſh ſkin; of a ſoft ſweet taſte, or a diſagreeable bitter one. The ſkins of both ſorts are unpleaſant, and covered with an acrid powdery ſubſtance: they are very apt to become rancid on keeping, and to be preyed on by a kind of inſect, which eats out the internal part, leaving the almond to appearance entire. To theſe circumſtances regard ought to be had in the choice of them.

The fruit which affords theſe kernels, is the produce of a tree nearly reſembling the peach. The eye diſtinguiſhes no difference betwixt the trees which produce the ſweet and bitter, or betwixt the kernels themſelves; it is ſaid that the ſame tree has, by a difference in culture, afforded both.

Both ſorts of almonds yield, on expreſſion, a large quantity of oil, which has no ſmell or any particular taſte: this oil ſeparates likewiſe upon boiling the almonds in water, and is gradually collected on the ſurface: but on triturating the almonds with water, the oil and water unite together, by the mediation of the other matter of the kernel, and form an unctuous milky liquor.

Sweet almonds are of greater uſe in food than as medicines, but they are reckoned to afford little nouriſhment; and when eaten in ſubſtance, are not eaſy of digeſtion, unleſs thoroughly comminuted. They are ſuppoſed, on account of their ſoft unctuous quality, to obtund acrimonious juices in the primæ viæ: peeled ſweet almonds, eaten ſix or eight at a time, ſometimes give preſent relief in the heartburn.

Bitter almonds have been found poiſonous to dogs and ſundry other animals; and a water diſtilled from them, when made of a certain degree of ſtrength, has had the ſame effects. Nevertheleſs, when eaten, they appear innocent to men, and have been not unfrequently uſed as medicines: Boerhaave recommends them, in ſubſtance, as diuretics which heat but moderately, and which may therefore be ventured upon in acute diſeaſes.

The oils obtained by expreſſion from both ſorts of almonds are in their ſenſible qualities the ſame. The general virtues of theſe oils are, to blunt acrimonious humours, and to ſoften and relax the ſolids: hence their uſe internally, in tickling coughs, heat of urine, pains and inflammations; and externally, in tenſion and rigidity of particular parts.

The milky ſolutions of almonds in watery liquors commonly called emulſions, contain the oil of the ſubject, and participate in ſome degree of its emollient virtue; but have this advantage above the pure oil, that they may be given in acute or inflammatory diſorders, without danger of the ill effects which the oil might ſometimes produce; ſince emulſions do not turn rancid or acrimonious by heat, as all the oils of this kind in a little time do. Several unctuous and reſinous ſubſtances, of themſelves not miſcible with water, may by trituration with almonds be eaſily mixed with it into the form of an emulſion; and are thus excellently fitted for medicinal uſe. In this form, camphor and the reſinous purgatives may be commodiouſly taken. The only officinal preparations of almonds are, the expreſſed oil and emulſion. The common emulſion, or the lac amygdalæ, as it is now called by the London college, is prepared from the ſweet almond alone; but in the emulſion of the Edinburgh college, a

ſmall

ſmall proportion of bitter almonds is added, which has a much better effect in improving its taſte than the ſugar added by the London college. An emulſion formed entirely of bitter almonds, taken to the quantity of a pint or two daily, is ſaid to have been given in obſtinate intermittents with ſucceſs.

ANCHUSA [*Ed.*] *Radix.*
Anchuſa tinctoria Lin.
Alkanet root.

Alkanet is a rough hairy plant, much reſembling the vipers bugloſs: its chief difference from the common bugloſſes conſiſts in the colour of its roots; the cortical part of which is of a duſky red, and imparts an elegant deep red to oils, wax, and all unctuous ſubſtances, but not to watery liquors. This plant is a native of the warmer parts of Europe: it is ſometimes cultivated in our gardens; but the greateſt quantities are raiſed in Germany and France, particularly about Montpelier, from whence the dried roots are uſually imported to us. The alkanet root produced in England is much inferior in colour to that brought from abroad; the Engliſh being only lightly reddiſh, the others of a deep purpliſh red: this has induced ſome to ſuſpect that the foreign roots owe part of their colour to art, but we think without ſufficient foundation.

Alkanet root has little or no ſmell: when recent, it has a bitteriſh aſtringent taſte; but when dried, ſcarce any. As to its virtues, the preſent practice expects not any from it. Its chief uſe is for colouring oils, ointments, and plaſters. As the colour is confined to the cortical part, the ſmall roots are beſt, theſe having proportionably more bark than the large.

ANETHUM [*Lond. Ed.*] *ſemen.*
Anethum graveolens Lin.
Dill, the ſeed.

Dill is an umbelliferous plant, cultivated in gardens, as well for culinary as medical uſe. The ſeeds are of a pale yellowiſh colour, in ſhape nearly oval, convex on one ſide, flat on the other. Their taſte is moderately warm and pungent; their ſmell aromatic, but not of the moſt agreeable kind. Theſe ſeeds are recommended as a carminative in flatulent colics. The moſt efficacious preparations of them are, the diſtilled oil, and a tincture or extract made with rectified ſpirit. A ſimple diſtilled water prepared from theſe ſeeds has a place both in the London and Edinburgh Pharmacopœias.

ANGELICA [*Lond. Ed.*] *Radix, caulis, folium, ſemen.*
Angelica archangelica Lin.
Angelica, the root, ſtalk, leaf, and ſeed.

Garden angelica is a large umbelliferous plant, growing ſpontaneouſly in the northern climates: for the uſe of the ſhops, it is cultivated in gardens in the different parts of Europe. Bohemia and Spain are ſaid to produce the beſt. Angelica roots are apt to grow mouldy, and be preyed upon by inſects, unleſs thoroughly dried, kept in a dry place, and frequently aired. We apprehend, that the roots which are ſubject to this inconvenience might be preſerved, by dipping them in boiling ſpirit, or expoſing them to its ſteam, after they are dried.

All the parts of angelica, eſpecially the roots, have a fragrant aromatic ſmell; and a pleaſant bitteriſh warm taſte, glowing upon the lips and palate for a long time after they have been chewed. The flavour of the ſeeds and leaves is very periſhable; particularly that of the latter, which

which, on being barely dried, lose the greatest part of their taste and smell: the roots are more tenacious of their flavour, though even these lose part of it upon keeping. The fresh root, wounded early in the spring, yields an odorous, yellow juice; which, slowly exsiccated, proves an elegant gummy resin, very rich in the virtues of the angelica. On drying the root, this juice concretes into distinct moleculæ, which on cutting it longitudinally, appear distributed in little veins; in this state, they are extracted by pure spirit, but not by watery liquors.

Angelica is one of the most elegant aromatics of European growth, though little regarded in the present practice. The root, which is the most efficacious part, is used in the aromatic tincture. The stalks make an agreeable sweetmeat.

Besides the angelica archangelica, or garden-angelica, as it is commonly called, the Edinburgh college still also give a place to the root of the angelica sylvestris, or wild angelica. But it seems to differ only from the former in being much weaker, and might we think with propriety be rejected.

ANISUM [*Lond. Ed.*] *Semen.* *Pimpinella anisum Lin.*

Anise, the seed.

Anise is an annual umbelliferous plant, growing naturally in Crete, Syria, and other places of the east. It is cultivated in some parts of France, Germany, and Spain, and may be raised also in England: the seeds brought from Spain, which are smaller than the others, are preferred.

Aniseeds have an aromatic smell, and a pleasant warm taste, accompanied with a degree of sweetness. Water extracts very little of their flavour; rectified spirit the whole.

These seeds are in the number of the four greater hot seeds: their principal use is in flatulent disorders, and in the gripes to which young children are subject. Frederic Hoffman strongly recommends them in weakness of the stomach, diarrhœas, and for strengthening the tone of the viscera in general; and thinks they well deserve the appellation given them by Helmont, *intestinorum solamen.*

There were formerly several officinal preparations of these seeds, but the only one now retained is an essential oil.

ANTIMONIUM [*Lond. Ed.*] *Stibium sive antimonium sulphuratum.*

Antimony.

Antimony is a ponderous brittle mineral, composed of long shining streaks like needles, intermingled with a dark lead-coloured substance; of no manifest taste or smell. There are several mines of it in Germany, Hungary, and France; and some likewise in England. The English seems to be of all these the least proper for medicinal use, as frequently containing a portion of lead. The substances found mixed with the foreign sorts are generally of the unfusible stony kind, from which the antimony is melted out in vessels, whose bottom is perforated with small holes, and received in conical moulds: in these, the lighter and more drossy matter arises to the surface; whilst the more pure and ponderous subsides to the bottom: hence the upper broad part of the loaves is considerably less pure than the lower.

The goodness of antimony is judged of from its weight; from the loaves not being spongy or blebby; from the largeness of the striæ; and from the antimony totally evaporating in a strong fire.

Antimony was employed by the

ancients in collyria against inflammations of the eyes; and for staining the eyebrows black. Its internal use does not seem to have been established till towards the end of the fifteenth century; and even at that time it was by many looked upon as poisonous. But experience has now fully evinced, that pure antimony, in its crude state, has no noxious quality, being often used, particularly in chronic eruptions; that some of the preparations of it are medicines of great efficacy; and that though many of them are most violently emetic and cathartic, yet even these, by a slight alteration or addition, lose their virulence, and become mild in their operation.

This mineral appears from chemical experiments to consist of a metal, united with common sulphur, and separable in its metallic form by the same means by which other metallic bodies are extracted from their ores.

The pure metal operates, in a very minute dose, with extreme vehemence, as a purgative and emetic: when combined with sulphur, as in the crude mineral, its power is restrained: divested of the inflammable principle which it has in common with all perfectly metallic bodies, it becomes an indolent calx.

Antimony is at present the basis of many officinal preparations, afterwards to be treated of. But besides those still retained, many others have been formerly in use, and are still employed by different practitioners. We shall here therefore subjoin a table drawn up by Dr Black, exhibiting a distinct view of the whole that were formerly in use. It may be proper, however, to observe, that the names used in this table refer not to the present edition of the London Pharmacopœia, but to that of 1746.

Dr Black's TABLE of the PREPARATIONS of ANTIMONY.

The Preparations of Antimony are obtained either from the crude antimony, or from the pure metallic part of it called regulus.

From CRUDE ANTIMONY.

I. By simple pulverisation.

Antimonium præparatum. Ed. et Lond.

II. By the action of heat and air.

Flores antimonii, sine addito.
Vitrum antimonii. Ed. et Lond.
Vitrum antimonii ceratum. Ed.

III. By the action of fixed alkalis.

1. Joined with it by fusion. HEPARS of antimony.

Hepar antim. mitissimus, vulgo Regulus antim. medicinalis.
Hepar for the Kermes mineral of Geoffroy.
Hepar for the tinctura antimonii. Lond.

2. Acting upon it in the form of watery solution.

Kermes mineralis.
Sulphur antim. præcipitatum. Ed. et Lond.
Vulgo sulphur auratum antimonii.

IV. By melting or deflagrating it with nitre, which produces either *croci* or *calces* of antim.

Crocus antim. mitissimus, vulgo Regulus antim. medicinalis.
Crocus antimonii mitior.
Crocus antimonii. Lond.
Crocus antimonii, vulgo crocus metallorum. Ed.
Crocus antimonii lotus. Lond.
Antimon. emeticum mitius. Boerh.
Calx antimonii nitrata. Ed. Vulgo James's powder.
Calx antimonii. Lond. Vulgo antim. diaphoreticum.

V. By the action of acids.

Antimon. vitriolatum. Klaunig.
Antimon. catharticum. Wilson.
Causticum antimoniale, vulgo Butyrum Antim. Ed.
Causticum antimoniale. Lond.
Mercurius vitæ, sive pulvis Algarotti.
Bezoardicum minerale.
Floris antim. cum sale ammoniaco.
Tartarus antimonialis, vulgo emeticus. Ed. et
Tartarus emeticus. Lond.
Vinum antimoniale. Ed. et Lond.
Vinum e tartaro antimoniali. Ed.

FROM THE REGULUS.

This metal separated from the sulphur by different processes, is called *Regulus antimonii simplex*, *Regulus antimonii martialis*, *Regulus jovialis*, &c. From it were prepared,

I. By the action of heat and air,
Flores argentei, sive nix antim.

II. By the action of nitre,
Cerussa antimonii.
Stomachicum Poterii.
Antihecticum Poterii.
Cardiacum Poterii.

Preparations which have their name from antimony, but scarcely contain any of its metallic part.
Cinnabaris antimonii. Lond.
Tinctura antimonii. Lond

In the various preparations of antimony, the reguline part is either combined with an acid, or in a condition to be acted upon by acid in the stomach; and the general effects of antimonials are, diaphoresis, nausea, full vomiting and purging, which perhaps may be best obtained by the forms of prepared antimony and emetic tartar. Some allege that antimonials are of most use in fevers when they do not produce any sensible evacuation, as is said to be the case sometimes with James's powder. Some therefore prefer it in typhus, and emetic tartar in synochus, in which there is the appearance at first of more activity in the system, and more apparent cause for evacuation.

APIUM [*Gen.*] *Rad. fol. semen.* *Apium graveolens Lin.*

Smallage; the roots, leaves, and seeds.

This plant is larger than the garden parsley, of a darker green colour, and of a stronger and more unpleasant flavour. The roots are in the number of the five called opening roots, and have been sometimes prescribed as an ingredient in aperient apozems and diet-drinks; but are at present disregarded. The seeds of the plant are moderately aromatic, and were formerly used as carminatives; with which intention they are, doubtless, capable of doing service, though the other warm seeds with which the shops are furnished render these unnecessary.

ARABICUM GUMMI, Vide GUMMI ARABICUM.

ARGENTUM [*Lond.*]

Silver.

Silver is intitled to a place in the materia medica, only as being the basis of different preparations; and of these, although several were formerly in use, yet one only now retains a place either in the London or Edinburgh pharmacopœias.

Abundance of virtues have indeed been attributed to crude silver by the Arabians, and by some also of later times, but on very little foundation. This metal, taken in its crude state, has no effect in the body: combined with a small quantity of the nitrous acid, it proves a powerful, though not always a safe, hydragogue; with a larger, a strong caustic. The nitrous acid is the only one that perfectly dissolves this metal: on adding to this solution a minute portion of marine acid, or substances containing it, the liquor turns milky, and the silver falls to the bottom in form of a white calx: hence we are furnished with a method of discovering marine salt in waters.

ARISTOLOCHIA [*Ed.*] *Rad.*

Birthwort; the root.

Three roots of this name were formerly directed for medicinal use, and have still a place in some pharmacopœias.

(1) ARISTOLOCHIA LONGA *Lin.*
Long Birthwort.

This is a tuberous root, ſometimes about the ſize of the finger, ſometimes as thick as a man's arm, and a foot in length: it is nearly of an equal thickneſs all over, or a little thicker in the middle than at the ends: the outſide is of a brownifh colour; the inſide yellowiſh.

(2) ARISTOLOCHIA ROTUNDA *Lin.*
Round birthwort.

This has ſcarce any other viſible difference from the foregoing than its roundiſh ſhape.

(3) ARISTOLOCHIA TENUIS.
Ariſtolochia clematis Lin.
Slender birthwort.

This is a long and ſlender root, rarely exceeding the thickneſs of a gooſe-quill.

Theſe roots are the produce of Spain, Italy, and the ſouthern parts of France. Their ſmell is ſomewhat aromatic; their taſte warm and bitteriſh. Authors in general repreſent them as extremely hot and pungent: ſome ſay they are the hotteſt of all the aromatic plants; but as uſually met with in the ſhops, they have no great pungency. The long and round ſorts, on being firſt chewed, ſcarce diſcover any taſte, but in a little time prove nauſeouſly bitteriſh; the long ſomewhat the leaſt ſo. The other ſort inſtantly fills the mouth with an aromatic bitterneſs, which is not ungrateful. Their medical virtues are, to heat, ſtimulate, and promote the fluid ſecretions in general; but they are principally celebrated in ſuppreſſions of female evacuations. The doſe in ſubſtance is from a ſcruple to two drams. The long ſort is recommended externally for cleanſing and drying wounds and ulcers in cutaneous diſeaſes.—None of them, however, are now in ſo much eſteem as formerly; and while all of them are banifhed from the pharmacopœia of the London college, the *ariſtolochia tenuis*, is alone retained in that of Edinburgh.

ARNICA [*Lond. Ed.*] *Herba, flos, radix.*
Arnica montana Lin.
German leopard's bane; the herb, flowers, and roots

This article had formerly a place in our pharmacopœias, under the title of *Doronicum Germanicum.* Then, however, it was little known or uſed; and being juſtly conſidered as one of the deliterious vegetables, it was rejected: but it has again been introduced into the liſt both of the London and Edinburgh colleges, on the authority of freſh obſervations, particularly of thoſe of Dr Collins of Vienna, who has lately publiſhed a Diſſertation on the Medical Virtues of the Arnica.

This plant grows in different parts of Europe, particularly in Germany. It has an acrid bitter taſte, and when bruiſed, emits a pungent odour, which excites ſneezing. On this account, the country people in ſome parts of Germany uſe it in ſnuff, and ſmoke it like tobacco. It was formerly repreſented as a remedy of great efficacy againſt effuſions and ſuffuſions of blood, from falls, bruiſes, or the like; and it was then alſo mentioned as a remedy in jaundice, gout, nephritis, &c. but in theſe affections it is now very little, if at all, employed.

Of late it has been principally recommended in paralytic affections, and in caſes where a loſs or diminution of ſenſe ariſes from an affection of the nerves, as in inſtances of amauroſis. In theſe, it has chiefly been employed under the form of infuſion. From a dram to half an ounce of the flowers has been directed to be infuſed in a pint of boiling water, and taken in different doſes in the courſe of the day: ſometimes it

it produces vomiting, sometimes sweating, sometimes diuresis; but frequently its use is attended with no sensible operation, unless it can be considered as such, that in some cases of paralysis, the cure is said to be preceded by a peculiar prickling, and by shooting pains in the affected parts.

Besides, being employed in paralytic affections, it has also been of late represented as a very powerful antispasmodic; and it is said to have been successfully employed in fevers, particularly those of the intermittent kind, and likewise in cases of gangrene. In those diseases it has been said to prove as efficacious as the peruvian bark, when employed under the form of a pretty strong decoction, taken in small doses frequently repeated, or under the form of an electuary with honey.

But these alleged virtues of the arnica have not been confirmed by any trials made in Britain with which we are acquainted; and we are of opinion, that its real influence still remains to be determined by future observations. It is, however, one of those active substances from which something may be expected.

ARSENICUM.

Arsenic.

Arsenic is contained, in greater or less quantity, in most kinds of ores, particularly in those of tin and bismuth, in the white pyrites, and in the mineral called *cobalt*. From this last, greatest part of the arsenic brought to us is extracted by a kind of sublimation: the arsenic arises at first in the form of greyish meal; which, more carefully resublimed, concretes into transparent masses, the *white* arsenic of the shops.

Arsenic sublimed with one-tenth its weight of sulphur, unites therewith into a bright yellow mass, in some degree transparent; the common *yellow* arsenic. On doubling the quantity of sulphur, the compound proves more opaque and compact; of a deep red colour, resembling that of cinnabar, but with this difference, that it loses of its beauty upon being reduced into powder, whilst that of cinnabar is improved by this means: this is the common *red* arsenic. By varying the proportions of arsenic and sulphur, sublimates may be obtained of a great variety of shades of yellow and red.

Natural mixtures of arsenic and sulphur, resembling the foregoing preparations, are not unfrequently met with in the earth. The fossil red arsenic is the *sandaracha* of the Greeks, the *realgar* and *resigal* of the Arabians. Both the red and yellow, when of a smooth uniform texture, are named *zarnichs*; and when composed of small scales or leaves, *auripigmenta*, or *orpiments*: the last are the only substances to which the Greeks gave the name αρσενικον. That the zarnichs and orpiments really contain arsenic (contrary to the opinion of some late writers) is evident from sundry experiments, whereby a perfect arsenic, and in considerable quantity, is obtainable from them. The compilers of a former edition of the Edinburgh Dispensatory therefore very justly gave *sandaracha Græcorum* as a synonymon to *red arsenic*; and *auripigmentum* to the yellow.

The pure or white arsenic has a penetrating corrosive taste; and taken into the body to the extent even of only a few grains, it proves a most violent poison. Besides the effects which it has in common with other corrosives, it remarkably inflames the coats of the stomach, occasions a swelling and sphacelation of the whole body, and a sudden putrefaction after death, particularly, as is said, of the genitals in men. Where

the quantity is ſo very ſmall as not to prove fatal. tremors palſies, and lingering hectics ſucceed. The remedies recommended for counter acting the effects of this poiſon are, milk and oily liquors immediately and liberally drank.

Some recommend acids particularly vinegar, as antidotes againſt this poiſon. Others recommend a watery ſolution of calcareous or alkaline hepar ſulphuris, which is found to combine with arſenic, and deſtroys moſt of its properties. It is ſaid to be better from a little iron in the ſolution. The dry hepar may alſo be made into pills, and warm water drank above them.

Notwithſtanding, however, the very violent effects of arſenic, it has been employed in the cure of diſeaſes, both as applied externally and as taken internally. Externally, white arſenic has been chiefly employed in caſes of cancer; and as uſed in this way, it is ſuppoſed that its good effects depend on its acting as a peculiar corroſive: and it is imagined, that arſenic is the baſis of a remedy long celebrated in cancer, which, however, is ſtill kept a ſecret by a family of the name of Plunket in Ireland. According to the beſt conjectures, their application conſiſts of the powder of ſome vegetables, particularly the ranunculus flammeus and cotula fœtida, with a conſiderable proportion of arſenic and flower of ſulphur intimately mixed together. This powder, made into a paſte with the white of an egg, is applied to the cancerous part which it is intended to corrode; and being covered with a piece of thin bladder, ſmeared alſo with the white of an egg, it is ſuffered to lie on from twenty-four to forty-eight hours; and afterwards the eſchar is to be treated with ſoftening digeſtive, as in other caſes. This application, whether it be preciſely the ſame with Plunket's remedy or not, and likewiſe arſenic in mere ſimple forms, have in ſome inſtances been productive of good effects. It is indeed a powerful eſcharotic, occaſioning acute pain; but it has the peculiar excellence of not extending its operation laterally. But if in ſome caſes it has been beneficial, in others it muſt be allowed it does harm. While it has occaſioned very conſiderable pain, it has given the parts no diſpoſition to heal, the progreſs of the ulceration being even more rapid than before.

White arſenic has alſo been recommended as a remedy for cancer when taken internally. With this intention, four grains of arſenic, of a clear white ſhining appearance, and in ſmall cryſtals, is directed to be diſſolved in a pint of diſtilled water; and of this ſolution the patient is to take a table ſpoonful, with an equal quantity of milk and a little ſyrup of white popies, every morning faſting, taking care to taſte nothing for an hour after it. After this has been continued for about eight days, the quantity is to be encreaſed, and the doſes more frequently repeated, till the ſolution be taken by an adult to the extent of ſix table ſpoonfuls in the courſe of a day. Mr Le Febure, who is, we believe, the introducer of this practice, affirms that he has uſed it in more than two hundred inſtances without any bad effect, and with evident proofs of its efficacy. But when employed by others, it has by no means been found equally efficacious; and indeed it is very doubtful to what degree arſenic can be diſſolved in ſimple water.

Arſenic, in ſubſtance, to the extent of an eight of a grain for a doſe, combined with a little of the flowers of ſulphur, has been ſaid to be employed internally in ſome very obſtinate

ſtinate caſes of cutaneous diſeaſes, and with the beſt effect. But of this we have no experience.

Of all the diſeaſes in which white arſenic has been uſed internally, there is no one in which it has been ſo frequently and ſo ſucceſsfully employed as in the cure of intermittent fevers. It has long been uſed in Lincolnſhire, and ſome other of the fenny countries, under the name of the *arſenic drop*, prepared in different ways: And it is conjectured, that an article, which has had a very extenſive ſale, under the title of the *taſteleſs ague-drop*, the form of preparing which, however, is ſtill kept a ſecret, is nothing elſe but a ſolution of arſenic. But whether this be the caſe or not, we have now the moſt ſatisfactory information concerning this article, in the Medical Reports of the effects of Arſenic in the cure of Agues, Remitting Fevers, and Periodic Headachs, by Dr Fowler of Stafford. He directs, that ſixty-four grains of arſenic, reduced to a very fine powder, and mixed with as much fixed vegetable alkaline ſalt, ſhould be added to half a pound of diſtilled water, in a florence flaſk; that it ſhould then be placed in a ſand heat, and gently boiled till the arſenic be completely diſſolved; that after the ſolution is cold, half an ounce of compound ſpirit of lavender be added to it, and as much diſtilled water as to make the whole ſolution amount to a pound. This ſolution is taken in doſes, regulated according to the age, ſtrength, and other circumſtances of the patient, from two to twelve drops once, twice, or oftener in the courſe of the day. And in the diſeaſes mentioned above, particularly in intermittents, it has been found to be a ſafe and very efficacious remedy, both by Dr Fowler and by other practitioners: but in ſome inſtances, even when given in very ſmall doſes, we have found it excite violent vomiting. But beſides this, it has alſo been alleged by ſome, that thoſe cured of intermittents by arſenic, are very liable to become phthiſical.

If arſenic ſhall ever be extenſively employed internally, it will probably be moſt certain and moſt ſafe in its operation when brought to the ſtate of a ſalt readily ſoluble in water. Mr Morveau tells us, that it may be brought to the ſtate of a true neutral ſalt in the following manner: Mix well together equal quantities of nitre and of pure white arſenic; put them into a retort, and diſtill at firſt with a gentle heat, but afterwards with ſo ſtrong a heat as to redden the bottom of the retort. By this means the nitrous acid, united to the phlogiſton of the arſenic, will ariſe into the receiver, and the alkaline baſis of the nitre will unite with the acid of the arſenic, and will be found in the bottom of the retort in the form of a neutral ſalt, which may be obtained in the form of cryſtals of a priſmatic figure, by diſſolving the neutral in diſtilled water, filtering the ſolution through paper, evaporating and cryſtallizing.

We have been informed, that a very pure ſal arſenici, readily ſoluble in water, has been prepared by Mr Milner, profeſſor of chemiſtry at Cambridge; and that it has been employed with great ſucceſs by ſeveral practitioners in that neighbourhood. But with the proceſs which he follows, we are unacquainted. Upon the whole, there is reaſon to believe that this active article may be employed with ſafety and advantage: and although it does not now ſtand in the liſt either of the London or Edinburgh Colleges, yet it ſeems to be better intitled to a place than many articles which have been introduced and retained.

The red and yellow arſenics, both

native and factitious, have little taste, and are much less virulent in their effects than the foregoing. Sulphur, which restrains the power of mercury and the antimonial metal, remarkably abates the virulence of this poisonous mineral also. Such of these substances as participate more largely of sulphur, seem to be almost innocent: the factitious red arsenic, and the native orpiments, have been given to dogs in considerable quantity, without their being productive of any apparent ill consequences.

ARTEMISIA [*Ed.*] *Folia.*
Artemisia vulgaris Lin.
Mugwort; the leaves.

This plant grows plentifully in fields, hedges, and waste places, throughout England; and flowers in June. In appearance it somewhat resembles the common wormwood: the difference most obvious to the eye is in the flowers, those of wormwood hanging downwards, whilst the flowers of mugwort stand erect.

The leaves of this plant have a light aromatic smell, and an herbaceous bitterish taste. They were formerly celebrated as uterine and antihysteric: an infusion of them is sometimes drank, either alone or in conjunction with other substances, in suppression of the menstrual evacuations This medicine is certainly a very mild one, and considerably less hot than most others to which these virtues are attributed: in some parts of this kingdom, mugwort is of common use as a pot-herb. It is now, however, very little employed in medicine; and it is probably with propriety that the London College have rejected it from their pharmacopœia.

ARTHANITA *Radix.*
Cyclaminen Europæum Lin.
Sowbread; the root.

This plant is met with in the gardens of the curious. The root has, when fresh, an extremely acrimonious burning taste, which it almost entirely loses on being dried. It is recommended as an errhine; in cataplasms for scirrhous and scrophulous tumors; and internally as a cathartic, detergent, and aperient: it operates very slowly, but with great virulence, inflaming the fauces and intestines.

ARUM [*Lond. Ed.*] *Radix.*
Arum maculatum Lin.
Wake-robin; the root.

This plant grows wild under hedges, and by the sides of banks, in most parts of England. It sends forth in March three or four triangular leaves, which are followed by a naked stalk, bearing a purplish pistil inclosed in a long sheath: this is succeeded in July by a bunch of reddish berries. In some plants, the leaves are spotted with black, in others with white spots, and in others not spotted at all: the black spotted sort is supposed to be the most efficacious.

All the parts of arum, particularly the root, have an extremely pungent, acrimonious taste; if the root be but lightly chewed, it continues to burn and vellicate the tongue for some hours, occasioning at the same time a considerable thirst: these symptoms are alleviated by butter-milk or oily liquors. Dried and kept for some time it loses much of its acrimony, and becomes at length an almost insipid farinaceous substance.

The root is a powerful stimulant and attenuant. It is reckoned a medicine of great efficacy in some cachectic and chlorotic cases, in weakness of the stomach occasioned by

by a load of viſcid phlegm. Great benefit has been obtained from it in rheumatic pains, particularly thoſe of the fixt kind, and which were ſeated deep. In theſe caſes it may be given from ten grains to a ſcruple of the freſh root twice or thrice a-day, made into a bolus or emulſion with unctuous and mucilaginous ſubſtances, which cover its pungency, and prevent its making any painful impreſſion on the tongue. It generally excites a ſlight tingling ſenſation through the whole habit, and, when the patient is kept warm in bed, produces a copious ſweat.

The arum was formerly an ingredient in an officinal preparation, the compound powder; but in that form its virtues are very precarious. Some recommended a tincture of it drawn with wine; but neither wine, water, nor ſpirits, extract its virtues.

ASAFOETIDA [*Lond. Ed.*] *Gummi reſina.*

Ferula aſafœtida Lin.

Aſafœtida; the gum-reſin.

This is the concrete juice of a large umbelliferous plant growing in Perſia. Till very lately it was not to be met with even in our hot-houſes; but by the induſtry of the late Dr Hope, it is now growing in the botanical garden at Edinburgh, and in ſome other places: and it is found, that it not only bears the viciſſitudes of our climate, even in the open air, but that the plant is here ſtrongly impregnated with its peculiar juice.

This juice exudes, from wounds made in the root of the plant, liquid, and white like milk: on being expoſed to the air, it turns of a brownish colour, and gradually acquires different degrees of conſiſtency. It is brought to us in large irregular maſſes, compoſed of various little ſhining lumps or grains, which are partly of a whitiſh colour, partly reddiſh, and partly of a violent hue. Thoſe maſſes are accounted the beſt which are clear, of a pale reddiſh colour, and variegated with a great number of elegant white tears.

This drug has a ſtrong fetid ſmell, ſomewhat like that of garlick; and a bitter, acrid, biting taſte. It loſes with age of its ſmell and ſtrength, a circumſtance to be particularly regarded in its exhibition. It conſiſts of about one third part of pure reſin and two-thirds of gummy matter; the former ſoluble in rectified ſpirit, the other in water. Proof-ſpirit diſſolves almoſt the whole into a turbid liquor; the tincture in rectified ſpirit is tranſparent.

Aſafœtida is the ſtrongeſt of the fetid gums, and of frequent uſe in hyſteric and different kinds of nervous complaints. It is likewiſe of conſiderable efficacy in flatulent colics; and for promoting all the fluid ſecretions in either ſex. The ancients attributed to this medicine many other virtues, which are at preſent not expected from it.

This gummy-reſin is an ingredient in the officinal gum-pills, fetid tincture, tincture of ſoot, and fetid volatile ſpirit.

ASARUM [*Lond. Ed.*] *Folium.*

Aſarum Europæum Lin.

Aſarabacca; the leaves.

Aſarum is a very low plant, growing naturally in France, Italy, and other warm countries. It grows readily in our gardens; and although the dried roots have been generally brought from the Levant, thoſe of our own growth do not ſeem to be weaker.

Both the roots and leaves have a nauſeous, bitter, acrimonious, hot taſte; their ſmell is ſtrong, and not very

very difagreeable. Given in fubftance from half a dram to a dram, they evacuate powerfully both upwards and downwards. It is faid, that tinctures made in fpirituous menftrua, poffefs both the emetic and cathartic virtues of the plant: that the extract obtained by infpiffating thefe tinctures, acts only by vomiting, and with great mildnefs: that an infufion in water proves cathartic, rarely emetic: that aqueous decoctions made by long boiling, and the watery extract, have no purgative or emetic quality, but prove good diaphoretics, diuretics, and emmenagogues.

The principal ufe of this plant among us is as a fternutatory. The root of afarum is perhaps the ftrongeft of all the vegetable errhines, white hellebore itfelf not excepted. Snuffed up the nofe, in the quantity of a grain or two, it occafions a large evacuation of mucus, and raifes a plentiful fpitting. The leaves are confiderably milder, and may be ufed, to the quantity of three, four, or five grains. Geoffroy relates, that after fnuffing up a dofe of this errhine at night, he has frequently obferved the difcharge from the nofe to continue for three days together; and that he has known a paralyfis of the mouth and tongue cured by one dofe. He recommends this medicine in ftubborn diforders of the head, proceeding from vifcid tenacious matter, in palfies, and in foporific diftempers. The leaves are the principal ingredient in the *pulvis fternutatorius*, or *pulvis afari compofitus*, as it is now termed, of the fhops.

ASPARAGUS [*Ros.*] *Radix, turiones.*

Afparagus officinalis Lin.

Afparagus; the root and top.

This plant is cultivated in gardens for culinary ufe. The roots have a bitterifh mucilaginous tafte, inclining to fweetnefs, the fruit has much the fame kind of tafte; the young fhoots are more agreeable than either. Afparagus promotes appetite, but affords little nourifhment. It gives a ftrong ill fmell to the urine in a little time after eating it, and for this reafon chiefly is fuppofed to be diuretic: it is likewife efteemed aperient and deobftruent; the root is one of the five called opening roots. Some fuppofe the fhoots to be moft efficacious; others the root; and others the bark of the root. Afparagus appears from experience to contribute very little either to the exciting of urine when fuppreffed, or increafing its difcharge; and in cafes where aperient medicines generally do fervice, this has little or no effect.

ATRIPLEX FOETIDA [*Ed.*] *Herba.*

Chenopodium vulvaria Lin.

Stinking orach; the leaves.

This is a low plant, fprinkled all over with a kind of whitifh clammy meal: it grows about dunghills, and other wafte places. The leaves have a ftrong fetid fmell, with which the hand, by a light touch, becomes fo impregnated as not to be eafily freed from it. Its fmell has gained it the character of an excellent antihyfteric; and this is the only ufe it is applied to. Tournefort recommends a fpirituous tincture, others a decoction in water, and others a conferve of the leaves, as of wonderful efficacy in uterine diforders; but in the prefent practice it is little employed.

AVENA [*Lond.*] *Semen.*

Avena fativa Lin.

The oat; its feed.

This grain is an article rather of food than of medicine. It is fufficiently nutritive and eafy of digeftion.

ſtion. The gruels made from it have likewiſe a kind of ſoft mucilaginous quality; by which they obtund acrimonious humours, and prove uſeful in inflammatory diſorders, coughs, hoarſeneſs, roughneſs, and exulcerations of the fauces. They are by no means an unpleaſant, and at the ſame time a gently nutritive drink, in febrile diſeaſes in general.

AURANTIUM HISPALENSE [*Lond. Ed.*] *Folium, flos, fructus ſuccus, et cortex exterior.*

Citrus aurantium Lin.

Seville orange; the leaf, flower, juice of the fruit, and its outer rind.

The orange is a beautiful evergreen tree, or rather ſhrub: it is a native of the warmer climates, and does not eaſily bear the winters of this.

The flowers are highly odoriferous, and have been for ſome time paſt of great eſteem as a perfume: their taſte is ſomewhat warm, accompanied with a degree of bitterneſs. They yield their flavour by infuſion to rectified ſpirit, and in diſtillation both to ſpirit and water: the bitter matter is diſſolved by water, and, on evaporating the decoction, remains entire in the extract. An oil diſtilled from theſe flowers is brought from Italy under the name of *oleum* or *eſſentia neroli.*

Orange flowers were at one time ſaid to be an uſeful remedy in convulſive and epileptic caſes; but experience has not confirmed the virtues attributed to them. The leaves of the orange have alſo been recommended for the ſame purpoſe, but have by no means anſwered the expectations entertained by ſome.

The outer yellow rind of the fruit is a grateful aromatic bitter; and proves an excellent ſtomachic and carminative, promoting appetite, warming the habit, and ſtrengthening the tone of the viſcera. Orange peel appears to be very conſiderably warmer than that of lemons, and to abound more with eſſential oil: to this circumſtance therefore due regard ought to be had in the uſe of theſe medicines. The flavour of the firſt is likewiſe ſuppoſed to be leſs periſhable than that of the other: hence the London college employ orange-peel in the ſpirituous bitter tincture which is deſigned for keeping; whilſt in the bitter watery infuſion, lemon-peel is preferred. A ſyrup and diſtilled water are for the ſame reaſon prepared from the rind of oranges in preference to that of lemons.

The outer rind of the orange is the baſis of a conſerve both in the Edinburgh and London pharmacopœias; and this is perhaps one of the moſt elegant and convenient forms for exhibiting it.

The juice of oranges is a grateful acid liquor, of conſiderable uſe in febrile or inflammatory diſtempers, for allaying heat, abating exorbitant commotions of the blood, quenching thirſt, and promoting the ſalutary excretions: it is likewiſe of uſe in genuine ſcorbutus, or ſea-ſcurvy.—Although the Seville, or *bitter-orange* as it is called, has alone a place in our pharmacopœias, yet the juice of the China, or ſweet-orange, is much more employed. It is more mild, and leſs acid; and it is employed in its moſt ſimple ſtate with great advantage, both as a cooling medicine, and as an uſeful antiſeptic in fevers of the worſt kinds, as well as in many other acute diſeaſes, being highly beneficial as alleviating thirſt.

AURANTIA CURASLAVENSIA.

Curaſſao oranges.

Theſe are the ſmall young fruit of the Seville orange dried. They are moderately warm bitteriſh aromatics,

matics, of a flavour ſufficiently agreeable.

AURUM [*Brun.*]
Gold.

This metal was introduced into medicine by the Arabians, who eſteemed it one of the greateſt cordials and comforters of the nerves. From them Europe received it without any diminution of its character; in foreign pharmacopœias it is ſtill retained, and even mixed with the ingredients from which ſimple waters are to be diſtilled. But no one, it is preſumed, at this time, expects any ſingular virtues from it, ſince it certainly is not alterable in the human body. Mr Geoffroy, though unwilling to reject it from the cordial preparations, honeſtly acknowledges, that he has no other reaſon for retaining it, than complaiſance to the Arabian ſchools. The chemiſts have endeavoured, by many elaborate proceſſes, to extract what they call a ſulphur or anima of gold: but no method is as yet known of ſeparating the component parts of this metal; all the tinctures of it, and aurum potabile, which have hitherto appeared, are real ſolutions of it in aqua regia, diluted with ſpirit of wine or other liquors, and prove injurious to the body rather than beneficial. A place, however, is now given in ſome of the foreign pharmacopœias to the aurum fulminans; and it has of late been recommended as a remedy in ſome convulſive diſeaſes, particularly in the chorea ſancti viti.

BALSAMITA [*Gen.*] *Folia.*
Tanacetum balſamita Lin.
Coſtmary; the leaves.

This was formerly a very common garden plant, and of frequent uſe both for culinary and medicinal purpoſes: but it is at preſent very little regarded for either; though it ſhould ſeem, from its ſenſible qualities, to be equal or ſuperior, as a medicine, to ſome aromatic herbs which practice has retained. The leaves have a bitteriſh, warm, aromatic taſte; and a very pleaſant ſmell, approaching to that of mint or a mixture of mint and maudlin. Water elevates their flavour in diſtillation; and rectified ſpirit extracts it by infuſion. It has been recommended in hyſterical affections; and by ſome it has been ſuppoſed to be very powerful in correcting the influence of opium. The leaves ſhould be collected in the month of July or Auguſt.

BALSAMUM CANADENSE
[*Lond. Ed.*]
Pinus balſamea Lin.
Canada balſam.

The Canada balſam is a tranſparent reſinous juice, of a light amber colour, and pretty firm conſiſtence, which is brought to this country from Canada in North America. It may be conſidered as one of the pureſt of the turpentines; and like theſe it is alſo the product of a ſpecies of fir. It has a very agreeable ſmell, and a warm pungent taſte. Hitherto it has been but little employed in medicine; but is conſidered by ſome as capable of anſwering every purpoſe for which the next article is employed.

BALSAMUM COPAIVA
[*Lond. Ed.*]
Copaifera balſamum Lin.
Balſam of Copaiva.

The tree which produces this balſam is a native of the Spaniſh Weſt India iſlands, and of ſome parts of the continent of South America. It grows to a large ſize, and the balſamum Copaiva flows under the form of a reſinous juice, from inciſions made in the trunk.

The juice is clear and tranſparent,

rent, of a whitiſh or pale yellowiſh colour, an agreeable ſmell, and a bitteriſh pungent taſte. It is uſually about the conſiſtence of oil, or a little thicker: when long kept, it becomes nearly as thick as honey, retaining its clearneſs; but has not been obſerved to grow dry or ſolid, as moſt of the other reſinous juices do. We ſometimes meet with a thick ſort of balſam of Copaiva, which is not at all tranſparent, or much leſs ſo than the foregoing, and generally has a portion of turbid watery liquor at the bottom. This ſort is probably either adulterated by the mixture of other ſubſtances, or has been extracted by coction from the bark and branches of the tree: its ſmell and taſte are much leſs pleaſant than thoſe of the genuine balſam.

Pure balſam of Copaiva diſſolves entirely in rectified ſpirit, eſpecially if the menſtruum be previouſly alkalized: the ſolution has a very fragrant ſmell. Diſtilled with water, it yields a large quantity of a limpid eſſential oil; and in a ſtrong heat, without addition, a blue oil.

The balſam of Copaiva is an uſeful corroborating detergent medicine, accompanied with a degree of irritation. It ſtrengthens the nervous ſyſtem, tends to looſen the belly, in large doſes proves purgative, promotes urine, and cleanſes and heals exulcerations in the urinary paſſages, which it is ſuppoſed to perform more effectually than any of the other balſams. Fuller obſerves, that it gives the urine an intenſely bitter taſte, but not a violet ſmell as the turpentines do.

This balſam has been principally celebrated in gleets and the fluor albus, and externally as a vulnerary. The author above mentioned, recommends it likewiſe in dyſenteries, in ſcorbutic cachexies, in diſeaſes of the breaſt and lungs, and in an acrimonious or putreſcent ſtate of the juices: he ſays, he has known very dangerous coughs, which manifeſtly threatened a conſumption, cured by the uſe of this balſam alone; and that, notwithſtanding its being hot and bitter, it has good effects even in hectic caſes. Moſt phyſicians ſeem now, however, to conſider balſams and reſins too ſtimulant to be ventured on in phthiſical affections.

The doſe of this medicine rarely exceeds twenty or thirty drops, tho' ſome direct ſixty or more. It may be conveniently taken in the form of an elæoſaccharum, or in that of an emulſion, into which it may be reduced by triturating it with almonds, or rather with a thick mucilage of gum-arabic, till they are well incorporated, and then gradually adding a proper quantity of water.

BALSAMUM GILEADENSE [*Ed.*]

Amyris Gileadenſis Lin.

Balſam of Gilead.

This article, which has alſo had the name of Balſamum Judaiacum, Syriacum, e Mecca Opobalſamum, &c. is a reſinous juice, obtained from an ever-green tree, growing ſpontaneouſly, particularly near to Mecca, on the Aſiatic ſide of the Red Sea. The beſt ſort of it is a ſpontaneous exudation from the tree; and is held in ſo high eſteem by the Turks, who are in poſſeſſion of the country where it is produced, that it is rarely, if ever, to be met with genuine among us. From the high price ſet upon it, many adulterations are practiſed. The true opobalſamum, according to Alpinus, is at firſt turbid and white, of a very ſtrong pungent ſmell, like that of turpentine, but much ſweeter; and of a bitter, acrid, aſtringent taſte: upon being kept for ſome time, it becomes thin, limpid, of a greeniſh hue, then of a gold yellow, and at length of the colour of honey. According to

Dr

Dr Alſton, the ſureſt mark of its being pure and unadulterated is its ſpreading quickly on the ſurface of water when dropt into it. He tells us, that if a ſingle drop be let fall into a large ſaucer full of water, it will immediately ſpread over its ſurface, and ſeem in a ſhort time to diſſolve or diſappear; but in about the ſpace of half an hour it becomes a tranſparent pellicle, covering the whole ſurface, and may be taken up with a pin. In this ſtate it has loſt both its fluidity and colour; it has become white and cohering, and has communicated its ſmell and taſte to the water. It is however, he obſerves, rare to get it in a condition that bears this teſt.

This balſam is in high eſteem among the eaſtern nations, both as a medicine and as an odoriferous unguent and coſmetic. It has been recommended in a variety of complaints; but its great ſcarcity has prevented it from coming into uſe among us; and it is now in general believed that the Canada and Copaiva balſams will anſwer every purpoſe for which it can be employed.

BALSAMUM PERUVIANUM [*Lond. Ed.*]

Myroxylon peruiferum Lin.

Balſam of Peru.

The common Peruvian balſam is ſaid to be extracted by coction in water, from an odoriferous ſhrub growing in Peru and the warmer parts of America. This balſam, as brought to us, is nearly of the conſiſtence of thin honey, of a reddiſh brown colour, inclining to black, an agreeable aromatic ſmell, and a very hot biting taſte. Diſtilled with water, it yields a ſmall quantity of a fragrant eſſential oil of a reddiſh colour; and in a ſtrong fire, without addition, a yellowiſh red oil.

Balſam of Peru is a very warm aromatic medicine, conſiderably hotter and more acrid than Copaiva. Its principal effects are, to warm the habit, to ſtrengthen the nervous ſyſtem, and attenuate viſcid humours. Hence its uſe in ſome kinds of aſthmas, gonorrhœas, dyſenteries, ſuppreſſions of the uterine diſcharges, and other diſorders proceeding from a debility of the ſolids, or a ſluggiſhneſs and inactivity of the juices. It is alſo employed externally, for cleanſing and healing wounds and ulcers; and ſometimes againſt palſies and rheumatic pains.

This balſam does not unite with water, milk, expreſſed oils, animal fats, or wax: it may be mingled in the cold with this laſt, and likewiſe with the ſebaceous ſubſtance called expreſſed oil of mace; but if the mixture be afterwards liquefied by heat, the balſam ſeparates and falls to the bottom. It may be mixed with water into the form of an emulſion, after the ſame manner as the balſam of Copaiva. Alkaline lixivia diſſolve great part of it; and rectified ſpirit the whole.

It is an ingredient in ſeveral officinal compoſitions; in ſome of which, as we ſhall afterwards endeavour to ſhow, it has rather a bad than a good effect.

There is another ſort of balſam of Peru, of a *white* colour, and conſiderably more fragrant than the former. This is very rarely brought to us. It is ſaid to be the produce of the ſame plant which yields the common or *black* balſam; and to exude from inciſions made in the trunk; while the former is alleged to be obtained by boiling. Beſides the white, there is alſo a third kind, commonly called the *red* or dry. This is ſuppoſed to obtain a different ſtate from the white, merely in conſequence of the treatment to which it is ſubjected after it is got from the tree. In its fragrance it in ſome degree approaches to

to the balſam of Gilead, held in ſo high eſteem among the eaſtern nations; but it is very rarely in uſe in Britain, and almoſt never to be met with in our ſhops.

BALSAMUM RAKASIRI [*Brun.*]

With the hiſtory of this balſam we are leſs acquainted than with that of any others. It is the product of an American tree yet unknown to us; and it is ſuppoſed to be a ſpontaneous exudation. If the accounts given of it by ſeveral writers, particularly by Mr Fermin in his Hiſtory of Surinam, are to be depended upon, it may be conſidered as one of the moſt powerful and uſeful of the balſams yet diſcovered. It is ſaid to poſſeſs all thoſe virtues which are attributed to balſamum Copaiva, but in a much higher degree. It is repreſented as a moſt uſeful application, both in caſes of recent wounds and old ulcers; and it is held forth to be an infallible remedy, both for the gonorrhœa in men and fluor albus in women. Theſe accounts, however, are ſolely founded on the repreſentation of the Indians, who are alone in the habit of uſing it; for hitherto it has been very little employed in Europe, and is very rarely to be met with.

BALSAMUM TOLUTANUM [*Lond. Ed.*]

Toluifera balſamum.

Balſam of Tolu.

This flows from a tree growing in Tolu, in the Spaniſh Weſt-Indies; from whence the balſam is brought to us in little gourd ſhells. It is of a yellowiſh brown colour, inclining to red; in conſiſtence thick and tenaceous: by age it grows hard and brittle, without ſuffering any great loſs of its more valuable parts. The ſmell of this balſam is extremely fragrant, ſomewhat reſembling that of lemons; its taſte warm and ſweetiſh, with little of the pungency, and nothing of the nauſeous reliſh, which accompany the other balſams. It has the ſame general virtues with the foregoing; but is much milder, and for ſome purpoſes, particularly as a corroborant in gleets and ſeminal weakneſſes, is ſuppoſed to be more efficacious. It is an ingredient in the *ſyrupus tolutanus*, *tinctura tolutana*, and *ſyrupus balſamicus*.

BARDANA [*Lond. Ed.*] *Radix.*

Arctium lappa Lin.

Burdock; the root.

This is a common plant about way-ſides, ſufficiently known from its ſcaly heads, or burs, which ſtick to the clothes.—The ſeeds have a bitteriſh ſubacrid taſte: they are recommended as very efficacious diuretics, given either in the form of emulſion, or in powder, to the quantity of a dram.—The roots taſte ſweetiſh, with a ſlight auſterity and bitteriſhneſs: they are eſteemed aperient, diuretic, and ſudorific; and ſaid to act without irritation, ſo as to be ſafely ventured upon in acute diſorders. Decoctions of them have of late been uſed in rheumatic, gouty, venereal, and other diſorders; and preferred by ſome to thoſe of ſarſaparilla.

BARILLA [*Lond.*] *Natrum impurum.*

Natrum antiquorum Lin.

Barilla, or impure foſſil alkali.

Barilla is a ſaline ſubſtance in a very impure ſtate, chiefly imported into Britain from the Mediterranean. Its great conſtituent is the foſſil alkali; and it is under that form alone that it is now employed in medicine, either by itſelf, or combined with other articles. Its medical virtues will therefore more properly

perly fall to be mentioned under the title of Natron præparatum, the name now given by the London college to the pure foſſil alkali, the ſal alkalinus fixus foſſilis of the Edinburgh college, the ſal ſoda of ſome of the beſt foreign pharmacopœias.

The barilla, or natron of the ancients, has ſometimes been found native in the earth, particularly in Egypt near to Smyrna, and in other places of Aſia; it has alſo been found in ſome parts of Barbary, Hungary, and Ruſſia: But as now employed for the purpoſes of medicine and other arts, it is chiefly obtained by artificially ſeparating it from thoſe ſubſtances which contain it. Our barilla is chiefly imported from Spain, where it is obtained by the calcination of vegetables, particularly the kali, growing on the ſea ſhore. In Britain, much of it is obtained in a very impure ſtate, by the calcination of the different fuci, or ſea-weeds, growing on the rocks, and covered by the ſea water at every tide. And there can be no doubt that all theſe different vegetables derive it entirely from the ſea-ſalt. Many attempts have been made to obtain it immediately from ſea-ſalt: And although theſe have not been hitherto ſo ſucceſsful as could have been wiſhed, yet it is to be hoped, that a proceſs will be diſcovered for obtaining it in an eaſy manner, and at a cheaper rate, than it is either at preſent imported from abroad or obtained at home.

BDELLIUM [*Suec.*]
Bdellium; gummi-reſina.

Bdellium is a gummy-reſinous concrete juice brought from Arabia and the Eaſt-Indies, in glebes of different figures and magnitudes. It is of a dark reddiſh brown colour, and in appearance ſomewhat reſembles myrrh; upon cutting a piece, it looks ſomewhat tranſparent, and, as Geoffroy juſtly obſerves, like glue. It grows ſoft and tenaceous in the mouth, ſticks to the teeth, has a bitteriſh taſte, and not a diſagreeable ſmell. Bdellium is recommended as a ſudorific, diuretic, and uterine; and in external applications for maturating tumours, &c. In the preſent practice, it is ſcarcely made uſe of. And accordingly it has now no place either in the London or Edinburgh Pharmacopœias; but it is ſtill retained in ſeveral of the lateſt foreign ones, and enters ſome of their plaſters.

BECABUNGA [*Lond.*] *Herba.*
Veronica becabunga Lin.
Brooklime; the herb.

This is a low plant, common in little rivulets and ditches of ſtanding water. The leaves remain all the winter, but are in greateſt perfection in the ſpring. Their prevailing taſte is an herbaceous one, accompanied with a very light bitterneſs.

Becabunga has been ſuppoſed to have a ſaponaceous detergent virtue, and to attenuate viſcid humours without pungency or irritation: hence it has been directed in the ſpecies of ſcurvy called hot, where the *cochleariæ*, and other acrid antiſcorbutics, were ſuppoſed to be leſs proper. If any virtue is expected from becabunga, it ſhould be uſed as food.

BELLADONA [*Ed.*] *Folia.*
Atropa belladona Lin.
Deadly nightſhade.

The deadly nightſhade is a native of Britain, growing in many different places, and in conſiderable abundance. It has long been conſidered, which indeed may be inferred from the name, as one of the moſt deleterious of the vegetable narcotic poiſons. It has, however, for a con-

considerable number of years been employed in the practice of medicine, both externally and internally; and it has accordingly had a place in successive editions of the Edinburgh pharmacopœia. It is perhaps surprising that the London college have not introduced into their list an article of great activity, which under prudent management may certainly be used with safety, and which at least deserves a trial in cases otherwise desperate.

The belladona, taken internally, has been highly recommended in cancer by several writers, particularly by Dr Lambergen and Dr Munch, in treatises professedly published with the intention of recommending it. Besides a very remarkable narcotic power, this vegetable possesses considerable influence in promoting all the excretions, particularly by sweat, urine, and it is also said by saliva. It has been employed under the form of infusion, formed of the dried leaves, to the extent of a scruple in a considerable quantity of water, and taken in the course of a day. But some imagine that it is much injured by the action of heat, and give it under the form of dry powder of the leaves. As thus employed, the dose is limited to a few grains.

Besides cancer, scirrhus, and other obstinate tumours, it has been said also to be employed with success in some cases of melancholia, mania, and epilepsia.

Externally, it has been applied to open cancers under the form of an infusion of the dried leaves; and to occult ones, the recent leaves have been applied in substance. And there are well authenticated cases on record of good effects being obtained from it in both these ways. While therefore a place is given to it in lists of the materia medica, it ought also, we think, to be the basis of officinal formulæ, under which it might be employed with most safety and advantage.

BENZOE [*Lond. Ed.*] *Resina.* *Styrax benzoe Dryand.* [*Lond.*] *Terminalia benzoin Lin.* [*Ed.*] Benzoine; the resin.

Benzoine is a concrete resinous juice. It is brought from the East-Indies only; in large masses composed of white and light brown pieces, or yellowish specks, breaking very easily betwixt the hands: such as is whitest, and free from impurities, is most esteemed.

In most of the new foreign pharmacopœias benzoine is said to be obtained from the croton benzoe of Linnæus: but when the last edition of the Edinburgh pharmacopœia was published, it was supposed to be the product of the terminalia benzoine, a tree unknown to Linnæus, but described in the Supplement to his works, published by his son. But since that, Dr Dryander of London has described the tree producing it in the Philosophical Transactions, and gives it the name of *styrax benzoe* It grows chiefly in the island of Sumatra.

This resin has very little taste, impressing only a light sweetness on the tongue: its smell is extremely fragrant and agreeable, especially when heated. Committed to the fire in proper vessels, it yields a considerable quantity of a white saline concrete, called *flowers*, of an acidulous taste and grateful odour, soluble in rectified spirit, and, by the assistance of heat, in water.——Of these we shall afterwards have occasion to treat.

The principal use of benzoine is in perfumes, and as a cosmetic: it is rarely met with in extemporaneous prescription, and enters in substance only one officinal composition, the *balsamum traumaticum*, or tinctura benzoes composita, as it is now more

properly ſtyled by the London college, deſigned chiefly for external uſe. It ſhould nevertheleſs ſeem applicable to other purpoſes, and to have no ill title to the virtues of ſtorax and balſam of Tolu, at leaſt in a ſubordinate degree. The flowers are recommended in diſorders of the breaſt; and with this intention they are made an ingredient in the *paregoric elixir*, or camphorated tincture of opium.

BERBERIS [*Suec.*] *Cortex, baccarum ſuccus.*

Berberis vulgaris Lin.

Barberry; the bark and juice of the berries.

The barberry is a ſmall tree, or rather a large buſh, covered with an aſh-coloured bark, under which is contained another of a deep yellow: the berries are of an elegant red colour, and contain each two hard brown ſeeds. It grows wild on chalky hills in ſeveral parts of England; and is frequently planted in hedges and in gardens.

The outward bark of the branches, and the leaves, has an aſtringent acid taſte; the inner yellow bark, a bitter one; this laſt is ſaid to be ſerviceable in the jaundice; and by ſome, to be an uſeful purgative.

The berries, which to the taſte are gratefully acid, and moderately reſtringent, have been given with good ſucceſs in bilious fluxes, and diſeaſes proceeding from heat, acrimony, or thinneſs of the juices. Among the Egyptians, barberries are employed in fluxes and in malignant fevers, for abating heat, quenching thirſt, raiſing the ſtrength, and preventing putrefaction; the fruit is macerated for a day and night, in about twelve times its quantity of water, with the addition of a little fennel ſeed, or the like, to prevent offence to the ſtomach; the liquors ſtrained off, and ſweetened with ſugar, or ſyrup of citrons, is given the patient liberally to drink. Proſper Alpinus (from whoſe treatiſe *De medicina Egyptiorum* this account is extracted) informs us, that he took this medicine himſelf, with happy ſucceſs, in a peſtilential fever accompanied with an immoderate bilious diarrhœa.

The barberry, however, is now ſo little uſed for medical purpoſes in Britain, that it is rejected from the liſt both of the London and Edinburgh colleges.

BETA [*Gen.*] *Folium, radix.*

Beta vulgaris Lin.

The white and red beet; the root and leaves.

Theſe plants are cultivated in gardens chiefly for culinary uſe. The eye diſtinguiſhes little other difference betwixt them than that expreſſed in their titles. Decoctions of beets gently looſen the belly; hence they have been ranked among the emollient herbs; the plants remaining after the boiling are ſuppoſed to have rather a contrary effect. They afford little nouriſhment, and are ſaid by ſome to be prejudicial to the ſtomach. The juice expreſſed from the roots is a powerful errhine; but with this intention they are hardly employed in medicine. Of late, another ſpecies of beet, deſcribed by Dr Lettſom, under the title of *Beta hybrida*, or the root of ſcarcity, has been extolled, as affording a great quantity of alimentary matter on a ſmall ſpace of ground, both for the human ſpecies and domeſtic animals; but it has not been recommended for any particular purpoſe in medicine.

BETONICA [*Brun.*] *Folia et flores.*

Betonica officinalis Lin.

Betony; the leaves and flowers.

Betony

Betony is a low plant, growing in woods and ſhady places, in ſeveral parts of England; the flowers come forth in June and July; they are of a purpliſh colour, and ſtand in ſpikes on the tops of the ſtalks. The leaves and flowers have an herbaceous, roughiſh, ſomewhat bitteriſh taſte, accompanied with a very weak aromatic flavour. This herb has long been a favourite among writers on the materia medica, who have not been wanting to attribute to it abundance of good qualities. Experience does not diſcover any other virtue in betony than that of a mild corrobarant; as ſuch, an infuſion or light decoction of it may be drank as tea, or a ſaturated tincture in rectified ſpirit given in ſuitable doſes, in laxity and debility of the viſcera, and diſorders proceeding from thence. The powder of the leaves, ſnuffed up the noſe, provokes ſneezing; and hence betony is ſometimes made an ingredient in ſternutatory powders: this effect does not ſeem to be owing, as is generally ſuppoſed, to any peculiar ſtimulating quality in the herb, but to the rough hairs which the leaves are covered with. The roots of this plant differ greatly in quality from the other parts: their taſte is bitter and very nauſeous: taken in a ſmall doſe, they vomit and purge violently, and are ſuppoſed to have ſomewhat in common with the roots of hellebore. It is pretty ſingular, if true, that betony affects thoſe who gather any conſiderable quantity of it, with a diſorder reſembling drunkenneſs; as affirmed by Simon Paulli and Bartholinus.

From theſe ſenſible qualities and operative effects, although it has now no place in our pharmacopœias, yet it is perhaps to be conſidered as a vegetable deſerving farther attention.

BETULA [*Gen.*] *Cortex, ſuccus.*

Betula alba Lin.

The birch tree, the bark and ſap.

This tree grows wild in moſt woods: its bark conſiſts of a thick brittle ſubſtance of a browniſh red colour; and of ſeveral very thin, ſmooth, white, tranſparent membranes. Theſe laſt are highly inflammable, and appear to abound with reſinous matter, though ſcarcely of any particular ſmell or taſte: the thick brittle part is leſs reſinous, and in taſte roughiſh; of the medical virtues of either, little or nothing is known with certainty.

Upon deeply wounding or boring the trunk of the tree in the beginning of ſpring, a ſweetiſh juice iſſues forth, ſometimes, as is ſaid, in ſo large quantity, as to equal in weight the whole tree and root: one branch will bleed a gallon or more in a day. This juice is chiefly recommended in ſcorbutic diſorders, and other foulneſſes of the blood; its moſt ſenſible effect is to promote the urinary diſcharge.

BEZOAR [*Brun*].

Calculus capræ bezoardicæ.

Bezoar ſtone.

The bezoar ſtone is a calculous concretion found in the ſtomach of certain animals which are ſaid to be of the goat kind. It is compoſed of concentrical coats ſurrounding one another, with a little cavity in the middle, containing a bit of wood, ſtraw, hair, or ſome ſimilar ſubſtance.

The ſhops diſtinguiſh two ſorts of bezoar, one brought from Perſia and the Eaſt-Indies, the other from the Spaniſh Weſt-Indies. The firſt, or beſt ſort, called oriental bezoar, is of a ſhining dark green or olive colour, and an even ſmooth ſurface; on removing the outward

coat, that which lies underneath it appears likewiſe ſmooth and ſhining. The occidental has a rough ſurface, and leſs of a green colour than the foregoing: it is likewiſe much heavier, more brittle, and of a looſer texture; the coats are thicker, and on breaking exhibit a number of ſtriæ curiouſly interwoven. The oriental is generally leſs than a walnut; the occidental for the moſt part larger, and ſometimes as big as a gooſe egg. The firſt is moſt eſteemed; although now they are ſo little valued in Britain, that a place is given to neither in our pharmacopœias.

Kæmpfer (in whoſe *Amœnitates Exoticæ* a full account of the bezoar animal may be ſeen) informs us, that this ſtone is in high eſteem among the Perſians, and even of greater value than in Europe; this, with ſundry other circumſtances needleſs to relate here, has given occaſion to many to ſuſpect, that the true bezoar is never brought to us. Some authors relate with great confidence, that all the ſtones commonly ſold under this name are artificial compoſitions. That ſome of them are ſo, is evident; hence the great differences in the accounts which different perſons have given of their qualities: the ſtones examined by Slare as oriental bezoar, did not diſſolve in acids; thoſe which Grew and Boyle made trial of did: thoſe employed by Geoffroy (in ſome experiments related in the French memoirs 1710) did not ſeem to be acted on by rectified ſpirit; whilſt ſome of thoſe examined by Neumann at Berlin almoſt totally diſſolved therein. The common mark of the goodneſs of this ſtone, is its ſtriking a deep green colour on white paper that has been rubbed with chalk.

Bezoar was not known to the ancient Greeks; and is firſt taken notice of by the Arabians, who extol it in a great variety of diſorders, particularly againſt poiſons. Later writers alſo beſtow extraordinary commendations on it as a ſudorific and alexipharmac; virtues to which it certainly has no pretence. It is a morbid concretion, much of the ſame nature with the human calculus, of no ſmell or taſte, not digeſtible in the ſtomach of the animal in which it is found, and ſcarce capable of being acted on by any of the juices of the human body. It cannot be conſidered in any other light than as an abſorbent; and is much the weakeſt of all the common ſubſtances of that claſs. It has been given to half a dram, and ſometimes a whole dram, without any ſenſible effect; though the general doſe is only a few grains, from which nothing can be expected.

BISMUTHUM [*Brun.*]
Viſmuthum nativum.
Biſmuth.

Biſmuth is a ponderous brittle metal, reſembling in appearance the antimonial regulus and zinc, but greatly differing from them in quality. It diſſolves with vehemence in the nitrous acid, which only corrodes the regulus of antimony; and is ſcarce at all ſoluble in the marine acid, which acts ſtrongly on zinc. A calx and flowers of this ſemimetal have been recommended as ſimilar in virtue to certain antimonial preparations; but are at preſent of no other uſe than as a pigment or coſmetic; and it is now entirely rejected from the Britiſh pharmacopœias.

BISTORTA [*Lond.Ed.*] *Radix.*
Polygonum biſtorta Lin.
Biſtort, or ſnakeweed; the root.

This plant grows wild in moiſt meadows in ſeveral parts of England.

land. The root is about the thickneſs of the little finger, of a blackiſh brown colour on the outſide, and reddiſh within: it is writhed or bent vermicularly (whence the name of the plant) with a joint at each bending, and full of buſhy fibres; the root of the ſpecies here mentioned has, for the moſt part, only one or two bendings; others have three or more.

All the parts of biſtort have a rough auſtere taſte, particularly the root, which is one of the ſtrongeſt of the vegetable aſtringents. It is employed in all kinds of immoderate hæmorrhagies and other fluxes, both internally and externally, where aſtringency is the only indication. It is certainly a very powerful ſtyptic, and is to be looked on ſimply as ſuch; to the ſudorific, antipeſtilential, and other virtues attributed to it, it has no other claim than in conſequence of its aſtringency, and of the antiſeptic power which it has in common with other vegetable ſtyptics. The largeſt doſe of the root in powder is one dram.

BOLI.

Boles are viſcid clayey earths, leſs coherent and more friable than clay ſtrictly ſo called, more readily uniting with water, and more freely ſubſiding from it. They are ſoft and unctuous to the touch, adhere to the tongue, and by degrees melt in the mouth, impreſſing a light ſenſe of aſtringency. A great variety of theſe kinds of earths have been introduced into medicine; the principal of which are the following.

(1) Bolus Armena [*Suec.*] Armenian bole, or bole armeniac.

Pure Armenian bole is of a bright red colour, with a tinge of yellow: it is one of the hardeſt and moſt compact of the bodies of this claſs; and not ſmooth or gloſſy like the others, but generally of a rough duſty ſurface. It raiſes no effervescence with acids.

(2) Bolus Gallica [*Lond. Ed.*] French bole.

The common French bole is of a pale red colour, variegated with irregular ſpecks or veins of white and yellow It is much ſofter than the foregoing; and ſlightly effervesces with acids.

(3) Bolus Blesensis. Bole of Blois.

This is a yellow bole, remarkably lighter than the former, and than moſt of the other yellow earths. It effervesces ſtrongly with acids.

(4) Bolus Bohemica. Bohemian bole.

This is of a yellow colour, with a caſt of red, generally of a flaky texture. It is not acted on by acids.

(5) Terra Lemnia. Lemnian earth.

This is a pale red earth; ſlightly effervescing with acids.

(6) Terra Silesiaca. Sileſian earth.

This is of a brownish yellow colour: acids have no ſenſible effect upon it. Theſe and other earths, made into little maſſes, and ſtamped with certain impreſſions, are called *terræ ſigillatæ*.

The boles of Armenia and Blois, and the Lemnian earth, are rarely met with genuine in the ſhops; the coarſer boles, or white clay coloured with ochre, caput mortuum of vitriol, &c. frequently ſupply their place. The genuine may be diſtinguiſhed by their ſubſiding uniformly from water, without any ſepara-

tion of their parts: the genuine yellow boles retain their colour, or have it deepened, in the fire: whilst the counterfeit sorts burn red.

These earths have been recommended as astringent, sudorific, and alexipharmac; and they have been used in diarrhœas, dysenteries, hæmorrhagies, and in malignant and pestilential distempers. In intestinal fluxes, and complaints in the first passages from thin acrimonious humours, they may doubtless be of some use. but the virtues ascribed to them in the other cases appear to have no foundation.

In the London pharmacopœia bole was formerly an ingredient in the *pulvis e bolo, e scordio, tabellæ cardialgicæ, theriaca*, and in one composition for external use, viz. the *lapis medicamentosus*. But now these formulæ are either entirely thrown out, or much changed. Thus to the pulvis e bolo, the pulvis e creta is substituted, in which no bole is contained. The bolus gallicus is the only one now retained either in the London or Edinburgh pharmacopœias. It does not enter any of their compositions, and is hardly used in the present practice.

BONUS HENRICUS [*Gen.*] *Herba.*

Chenopodium bonus henricus.

English herb mercury.

This herb is met with by roadsides, and in uncultivated places. It is ranked among the emollient herbs, but rarely made use of in practice. The leaves are applied by the common people for healing slight wounds, cleansing old ulcers, and other like purposes.

BORRAGO [*Gen.*] *Herba.*

Borrago officinalis Lin.

Borage; the herb.

This is a rough plant, clothed with small prickly hairs; it grows wild in waste places, and upon old walls. An exhilirating virtue has been attributed to the flowers of borage, which are hence ranked among the so called cordial flowers; but they appear to have very little claim to any virtue of this kind, and seem to be altogether insignificant.

BORAX [*Lond. Ed.*]

Natron boracicatum.

Borax, or tincal.

This is a saline substance, brought from the East Indies in great masses, composed partly of large crystals, but chiefly of smaller ones, partly white and partly green, joined together as it were by a greasy yellow substance, intermingled with sand, small stones, and other impurities: the purer crystals, exposed to the fire, melt into a kind of glass, which is nevertheless soluble in water.

This salt, dissolved and crystallized, forms small transparent masses: the refiners have a method of shooting it into larger crystals; but these differ in several respects from the genuine salt, insomuch that Cramer calls them not a purified, but adulterated borax. Experiments have clearly shown, that it consists of a fixt alkaline salt, the same with the basis of sea salt, in some degree neutralized by a peculiar acid.

The medical virtues of borax have not been sufficiently ascertained by experience: it is supposed to be, in doses of half a dram or two scruples, diuretic, emmenagogue, and a promoter of delivery. Mr Bisset, in an essay on the medical constitution of Great Britain, recommends a solution of this salt in water as the most powerful dissolvent yet known of aphthous crusts in the mouth and fauces of children. And for the same purpose also

alſo a ſmall quantity of it is often applied in the form of powder, mixed up with ſugar. There are ſtrong reaſons to believe, that the virtues of borax are much greater than they are in general ſuppoſed to be; and that it may be more extenſively uſed with advantage.

BOTRYS [*Suec.*] *Herba, ſemen.*

Chenopodium botrys Lin.

Jeruſalem oak; the leaves and ſeed.

This plant is cultivated in gardens. It has a ſtrong not diſagreeable ſmell, and a warm ſomewhat pungent taſte. It is recommended as a carminative pectoral; and it has alſo been recommended as an emmenagogue. Infuſions of it may be drank as tea: and in this form it has been recommended in caſes of chronic catarrh. But the proper menſtruum for the active matter, both of the leaves and ſeeds, is rectified ſpirit.

BRASSICA [*Gen.*] *Herba, ſemina.*

Braſſica oleracea Lin.

White and red cabbages, &c.

Theſe are cultivated in gardens rather for culinary than medicinal uſe. They are all ſuppoſed to be hard of digeſtion, to afford little nouriſhment, and to produce flatulencies; though probably on no very good foundation. They tend ſtrongly to putrefaction, and run into this ſtate ſooner than almoſt any other vegetable; when putrefied, their ſmell is likewiſe the moſt offenſive, greatly reſembling that of putrefied animal ſubſtances. Hence it ſeems reaſonable to conclude, that few of the oleraceous herbs are more eaſily ſoluble in the ſtomach, more nutritious or leſs remote from the nature of animal food. It is undeniable, that in general at leaſt they are not unwholeſome; that they do not induce or promote a putrid diſpoſition in the body; but on the contrary prove a ſalubrious aliment; that when taken freely, they tend to looſen the belly; and that their laxative matter is extracted by long boiling in water. Of all theſe plants, cauliflower is reckoned the eaſieſt of digeſtion. The white is the moſt fetid; and the red moſt emollient or laxative: a decoction of this laſt is recommended in ſome diſorders of the breaſt, and in hoarſeneſs.

Sliced cabbage caſked up with ſalt, &c. becomes ſour, keeps long, is uſed in Germany at table under the name of ſourcrout; and it has lately been introduced as an article of diet with the Britiſh forces, either in garriſons beſieged, or on long voyages. It is now clearly demonſtrated, that in theſe ſituations it operates as a moſt powerful preventive of ſcorbutus; and that it has even had very great influence in curing the diſeaſe after it has taken place.

Cabbage has alſo been uſed for medical purpoſes as externally applied. The leaves gently bruiſed are often applied to parts previouſly bliſtered, with the effect of promoting a conſiderable diſcharge. They excite a conſiderable watery diſcharge through the ſkin in caſes of anaſarca, particularly when applied to the ankles: And they have ſometimes even the effect of inducing veſications. As thus externally applied, they have in ſome inſtances produced a complete diſcharge of the water in caſes of anaſarca.

BRASSICA MARINA. [*Brun.*]

Convolvulus ſoldanella Lin.

Sea coleworts, Scots ſcurvygraſs, or ſoldanella; the leaves.

This is a trailing plant, growing on the ſea beach in many parts of the north of England. The roots, leaves, and ſtalks, yield a milky juice.

Soldanella is a ſtrong cathartic, operating very churliſhly, and hence deſervedly rejected from practice. Thoſe who recommend its uſe differ conſiderably with regard to the doſe; ſome direct half a dram; others three drams, and others a whole handful.

BRITANNICA, vide LAPATHUM.

BRYONIA [*Ed.*] *Radix.*
Bryonia alba Lin.
White bryony, or wild vine; the roots.

This is a rough plant, growing on dry banks under hedges, and climbing upon the buſhes. The roots are large, ſometimes as thick as a man's thigh; their ſmell, when freſh, is ſtrong and diſagreeable; the taſte nauſeouſly bitter, acrid, and biting: the juice is ſo ſharp, as in a little time to excoriate the ſkin: in drying, they loſe great part of their acrimony, and almoſt the whole of their ſcent.

Bryony root is a ſtrong irritating cathartic; and as ſuch has ſometimes been ſucceſsfully exhibited in maniacal caſes, in ſome kinds of dropſies, and in ſeveral chronical diſorders, where a quick ſolution of viſcid juices, and a ſudden ſtimulus on the ſolids, were required. An extract prepared by water, acts more mildly and with greater ſafety than the root in ſubſtance; given from half a dram to a dram, it is ſaid to prove a gentle purgative, and likewiſe to operate powerfully by urine.

Bryony root, applied externally, is ſaid to be a powerful diſcutient. Hence although this as well as many other draſtic and active articles is now rejected by the London college, yet we think that it ought not only to be retained, but that a place ſhould alſo be given in our pharmacopœias to the extract.

BUGLOSSUM [*Gen.*] *Radix, folia.*
Anchuſa officinalis Lin.
Garden bugloſs; the root and leaves.

This is a rough, hairy plant, reſembling borage, but leſs prickly; a wild ſort is commonly met with in hedges and among corn, which differs from the garden only in being ſmaller. Bugloſs has a ſlimy ſweetiſh taſte, accompanied with a kind of coolneſs: the roots are the moſt glutinous, and the flowers the leaſt ſo. The flowers are one of the four called cordial flowers: the only quality they have that can intitle them to this appellation, is, that they moderately cool and ſoften, without offending the palate or ſtomach; and thus, in warm climates, or in hot diſeaſes, may in ſome meaſure refreſh the patient; but at preſent they are very rarely employed.

BURSA PASTORIS [*Brun.*] *Folia.*
Thlapſi burſa paſtoris Lin.
Shepherds purſe; the leaves.

This plant is common in waſte places, and is found in flower all the ſummer. Shepherds-purſe has long been celebrated as an aſtringent, and ſtrongly recommended in diarrhœas, dyſenteries, uterine fluors, and in general in all diſeaſes where aſtringents of any kind can avail. Some have eſteemed it ſo powerful a ſtyptic, as ſcarce to be ſafely exhibited internally. Others have thought

thought it to be of a hot fiery nature, and ſuppoſed it to ſtop fluxes and hæmorrhagies, by coagulating the juices like alcohol, and burning or ſearing the orifices of the veſſels. The ſenſible qualities of ſhepherds-purſe diſcover little foundation for either of theſe opinions; it has no perceptible heat, acrimony, pungency, and ſcarcely any aſtringency: the taſte is almoſt merely herbaceous, ſo as ſufficiently to warrant the epithet given this plant by Mr Ray, *Fatuum*. And although it be ſtill retained in moſt of the foreign pharmacopœias, yet it is hardly in uſe in Britain.

BUXUS [*Brun.*] *Folia Lignum.*
Buxus ſempervirens Lin.
Box tree; the leaves and wood.

The box is a ſmall tree, growing wild in ſome parts of Kent and Surry. The wood is of a yellow colour, more ſolid, compact, and ponderous than any other of the European woods. The leaves have a ſtrong nauſeous taſte, and, when freſh, a fetid ſmell: they are ſaid to purge violently, in the doſe of a dram. A decoction of the wood is recommended by ſome as powerfully ſudorific, preferable even to guaiacum: but the taſte readily diſcovers that it wants the qualities of that wood. Neither the wood nor leaves of the box tree are at preſent employed for any medicinal purpoſe in Britain; and they are now rejected by our colleges: But from their active qualities, particularly that of the leaves, they deſerve ſome attention, and may perhaps be advantageouſly ſubſtituted to expenſive articles imported from abroad.

CACOA [*Suec.*] *Nuclei.*
Theobroma cacoa Lin.
Chocolate nuts.

Theſe are the fruit of an American tree reſembling the almond. The tree, though ſmall, bears a large fruit, ſhaped like a cucumber, which contains thirty or more of the nuts. Theſe, by preſſure, yield a conſiderable quantity of a fluid oil. Boiled in water, they give out a large portion of a ſebaceous matter, which congeals on the ſurface of the liquor as it cools. The principal uſe of theſe nuts is for the preparation of the dietetic liquor chocolate. This is a mild, unctuous, nutritious fluid, capable of ſoftening acrimonious humours, and of great ſervice in conſumptive diſorders; eſpecially if made with milk, and with only a ſmall proportion of aromatics.

CAJEPUT [*Suec.*] *Oleum.*
Maleleuca leucadendron.
Cajeput oil.

This article has never yet had any place in our pharmacopœias; but it is introduced into ſome of the beſt foreign ones; and it is mentioned by ſeveral writers on the materia medica as an article in very high eſteem among the eaſtern nations, particularly in India. It is ſaid to be obtained by diſtillation, from the fruit of the maleleuca leucadendron. When brought into this country it is a liquid of a greeniſh colour, of a fragrant, but at the ſame time a very peculiar odour, and of a warm pungent taſte. Some authors, however, repreſent this oil as being, when of the beſt quality, a white or colourleſs fluid; and it has been ſaid by the authors of the Diſpenſatorium Brunſvicenſe, when prepared in Europe from the ſeeds ſent from India, to be entirely of this appearance.

Hitherto the oleum cajeput has been but little employed, either in Britain or on the continent of Europe; but in India it is uſed both internally and externally, and is highly extolled for its medical properties.

perties. It is applied externally where a warm and peculiar ſtimulus is requiſite; it is employed for reſtoring vigour after luxations and ſprains, and for eaſing violent pain in gouty and rheumatic caſes, in tooth-ach, and ſimilar affections; but it has been chiefly celebrated as taken internally, and it is particularly ſaid to operate as a very powerful remedy againſt tympanitic affections.

CALAMINARIS LAPIS [*Lond. Ed.*]

Zincum calaminaris.

Calamy, or calamine ſtone.

This mineral is found plentifully in England, Germany, and other countries, either in diſtinct mines, or intermingled with the ores of different metals. It is uſually of a greyiſh, browniſh, yellowiſh, or pale reddiſh colour; conſiderably hard, though not ſufficiently ſo to ſtrike fire with ſteel. It has been looked upon by ſome as a ſimple earth, by others as an iron ore; later experiments have diſcovered it to be an ore of zinc. Calamine is generally roaſted or calcined before it comes into the ſhops, in order to ſeparate ſome ſulphureous or arſenical matter which the crude mineral is ſuppoſed to contain, and to render it more eaſily reducible into a fine powder. In this ſtate it is employed in collyria, againſt defluxions of thin acrid humours upon the eyes; for drying up moiſt, running ulcers; and healing excoriations. It is the baſis of an officinal epulotic cerate, the ceratum lapidis calaminaris.

CALAMUS AROMATICUS [*Lond. Ed.*] *Radix.*

Acorus calamus Lin.

Sweet flag; the roots.

This flag reſembles, as to its leaves, the common *iris*; but in other reſpects differs greatly from it: the ſtalk grows at a little diſtance from the leaves; the lower half, up to where the flowers come forth, is roundiſh; the part above this, broad like the other leaves; the flowers are very ſmall, whitiſh, and ſtand in a kind of head about the ſize of a finger. This plant grows plentifully in rivulets and marſhy places about Norwich and other parts of this iſland, in the canals of Holland, in Switzerland, and in other countries of Europe. The ſhops have been uſually ſupplied from the Levant with dried roots, which do not appear to be ſuperior to thoſe of our own growth.

The root of acorus is full of joints, crooked, ſomewhat flatted on the ſides, internally of a white colour, and looſe ſpongy texture; its ſmell is ſtrong; the taſte warm, acrid, bitteriſh, and aromatic; both the ſmell and taſte are improved by exſiccation. This root is generally looked upon as a carminative and ſtomachic medicine, and as ſuch is ſometimes made uſe of in practice. It is ſaid by ſome to be ſuperior in aromatic flavour to any other vegetable that is produced in theſe northern climates: but this aſſertion is by no means ſtrictly true. It is, nevertheleſs, a ſufficiently elegant aromatic. It was formerly an ingredient in the mithridate and theriaca of the London pharmacopœia; and in the aromatic and ſtomachic tinctures, and compound arum powder, of the Edinburgh; but it is now rejected from theſe, and it does not at preſent enter any officinal preparation. The freſh root, candied after the manner directed for candying eryngo root, is ſaid to be employed at Conſtantinople as a preſervative againſt epidemic diſeaſes. The leaves of this plant have a ſweet fragrant ſmell, more agreeable, though

though weaker, than that of the roots; but they have no place either in the British or foreign pharmacopœias.

CALENDULA [*Brun.*] *Flos.*
Calendula officinalis Lin.
Garden marigold; the flower.

This herb is common in gardens, where it is found in flower greatest part of the summer. Marigold flowers are supposed to be aperient and attenuating; and also cardiac, alexipharmac, and sudorific: they have been principally celebrated in uterine obstructions, in the jaundice, and for throwing out the small pox. Their sensible qualities give little foundation for these virtues: they have scarcely any taste, and no considerable smell. The leaves of the plant discover a viscid sweetishness, accompanied with a more durable saponaceous pungency and warmth: these seem capable of answering some useful purposes, as a stimulating and aperient medicine; but at present they are so little employed in Britain, that they have now no place in our pharmacopœias, and they are also rejected from several of the latest and best foreign ones.

CALX VIVA [*Lond. Ed.*]
Lapis calcareus purus recens ustus.
Quicklime.

Quicklime is usually prepared among us, by calcining certain stones of the chalky kind. All chalks and marbles burn into quicklime; with this difference, that the more compact the stone, generally the stronger is the lime. In maritime countries, in defect of the proper stones, sea-shells are made use of, which afford a calx agreeing in most respects with the stone limes.

All these limes are, when fresh burnt, highly acrimonious and corrosive, being thus freed from fixt air. In this state they are employed in some external applications as a depilatory; for rendering sulphur soluble in water, and for depriving alkalies of their fixt air, thus increasing their power, either for the purposes of a caustic, or to enable them more readily to dissolve oils for making soap. If the lime be exposed for a length of time to the air, it absorbs water; falls by degrees into a powder; and, attracting fixt air, loses greatly of its acrimony.

Water poured directly upon quicklime, takes up a portion of it: the solution has a strong taste, somewhat styptic, drying the mouth, and accompanied with a kind of sweetness. This liquor does not effervesce with acids, but is rendered by fixt air turbid and milky: as preventing the coagulation of milk, it is sometimes made use of along with milk diet; agitated with expressed oils, it unites with them into a thick compound, recommended by Dr Slaire, and much used against burns and inflammations. Both the simple solution of the lime, and the solution impregnated with other materials, are directed as officinal, under the title of lime water.

Lime water, drank to the quantity of a quarter of a pint three or four times a day, and continued for a length of time, has been found serviceable in scrophulous cases, and other obstinate chronic disorders. It generally promotes urine, and not unfrequently the cuticular discharge: for the most part it binds the belly, and sometimes produces troublesome costiveness, unless this effect be occasionally provided against, by the interposition of proper medicines. It does good service in debility and laxity of the viscera in general; in those of the uterine and seminal vessels, fluor albus, chronic menorrhagia, and gleets, it is particularly

ticularly recommended. Care muſt be taken not to uſe this medicine too liberally in hot bilious conſtitutions, or where the patient is much emaciated, or the appetite weak, or at the time of any critical or periodical evacuations. It has been uſed as lithontriptic; and although incapable of diſſolving calculi in the urinary organs, yet under its uſe calculous patients have experienced great relief. In the form of injection, it is very effectual in killing and bringing off aſcarides.

CAMPHORA [*Lond. Ed.*]
Laurus camphora Lin.
Camphor.

Comphor is a very peculiar ſubſtance, obtained in the form of a ſolid concrete, chiefly extracted from the wood and roots of a tree growing in Sumatra and Japan. The former is by much the beſt. As it firſt ſublimes from the wood, it appears browniſh, compoſed of ſemipellucid grains mixed with dirt: in this ſtate it is exported by the Dutch, and purified by a ſecond ſublimation; after which, it is reduced into loaves (in which it is brought to us) probably by fuſion in cloſe veſſels; for it does not aſſume this form in ſublimation. Camphor is procurable in ſmall quantities from various other vegetables by diſtillation. It may be conſidered as a peculiar, concrete, very volatile eſſential oil.

Pure camphor is very white, pellucid, ſomewhat unctuous to the touch; of a bitteriſh, aromatic, acrid taſte, yet accompanied with a ſenſe of coolneſs; of a ſmell ſomewhat like that of roſemary, but much ſtronger. It is totally volatile, and inflammable; ſoluble in vinous ſpirits, oils, and the mineral acids; not in water, alkaline liquors, or the acids of the vegetable kingdom. This concrete is eſteemed one of the moſt efficacious diaphoretics; and has long been celebrated in fevers, malignant and epidemical diſtempers. In delirium, where opiates fail of procuring ſleep, and aggravate the ſymptoms, this medicine frequently ſucceeds.

Dr Alexander, ſome time ago a practitioner in Edinburgh, made many experiments on this article, particularly by taking it himſelf in large doſes. On taking a ſcruple of camphor, he found his pulſe ſomewhat leſs frequent: on taking two, his pulſe fell from 77 to 70, but returned to 77 in leſs than half an hour; at which time vertigo and a gradual abolition of conſciouſneſs came on, ſucceeded by violent retchings, convulſions, and mania, the pulſe riſing to 100. He then began to recover his recollection, felt extremely hot, with tremors of the whole body. By uſing warm water he threw up the camphor, the effects of which gradually wore off, only he felt his body for two days very ſore and rigid.

Frederick Hoffman has written an expreſs diſſertation *De Camphoræ uſu interno ſecuriſſimo et præſtantiſſimo.* The ſubſtance of his obſervations is, that camphor ſeems to penetrate very quickly through the whole body, and increaſe perſpiration: that though given to the quantity of half a dram. diſſolved in ſpirit of wine, and duly diluted, it does not raiſe the pulſe, or occaſion any heat, but rather cauſes a ſenſe of coolneſs about the præcordia: that on continuing its uſe for ſome time, the blood became ſenſibly more fluid, and the quantity of watery ſerum, which the habit before abounded with, was conſiderably diminiſhed: that in malignant fevers, and all diſorders, whether acute or chronical, proceeding from an acrid or putreſcent ſtate of the juices, camphor has excellent effects, correcting the acrimony, expelling the putrid morbific matter through the

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cutaneous pores, and preventing an inflammation or sphacelus, where there is previously any disposition thereto: that, by strengthening the vessels, it restrains hæmorrhagies happening in acute fevers, and promotes critical and periodical evacuations: that it expels even the venereal virus; that he has known examples of the lues being cured by camphor alone, a purgative only being premised; and that in recent infections he has found no medicine equal to it in efficacy. In inflammatory cases, where there is a tendency to mortification, intense heat, thirst, or where the skin is dry and parched, whether before or after a delirium has come on, small doses of camphor joined with nitre produced happy effects, almost immediately relieving the symptoms, occasioning a calm sleep and plentiful sweat, without fatiguing the patient. He farther observes, that this simple, by its antiphlogistic quality, prevents the ill effects of the more irritating medicines; that cantharides, and the acrid stimulating cathartics and diuretics, by the admixture of a small proportion of camphor, become much more mild and safe in operation.

The common dose of camphor is from one grain to ten. It enters several officinal preparations, both for external and internal use; particularly the linimentum camphoræ, linimentum saponis, balsamum anodynum, oleum camphoratum, spt. vinosus camphoratus, mistura camphorata, tinctura opii camphorata, &c.

In modern practice, it is externally employed chiefly to diminish inflammation, to discuss tumor, to obviate gangrene, to stimulate in local palsy, and to allay rheumatic and paralytic pains. Internally, it is given in nervous affections, with a view of exciting the vis vitæ, and alleviating spasmodic complaints: with the same view to the vis vitæ, to obviate putrescence, and to procure sleep, it is used in fevers of the typhous kind. Some recommend it as singularly useful in cases of ardor urinæ; and others find it efficacious in what are called nervous headachs.

CANCRORUM CHELÆ [*Lond.*]

Cancer pagurus Lin.

Crabs claws.

These are the black tips of the claws of a particular species of sea-crab. After being broken down, and well washed in boiling water, they are reduced to powder, and employed as an absorbent. They consist of a calcareous animal earth, and of course neutralize those acids with which they come in contact in the primæ viæ. But besides an earth, they contain also a glutinous animal matter, which gives them a tendency to concrete in the stomach and bowels: hence absorbents from the mineral kingdom are perhaps preferable; but while these, as magnesia, often operate as cathartics, the chelæ cancrorum tend rather to bind the body; a circumstance which renders them preferable in some cases. They enter some officinal preparations, as the pulvis e chelis cancrorum compositus. The chelæ cancrorum have now no place in the Edinburgh pharmacopœia. They employ for the same purposes the article next to be mentioned, which is now rejected by the London college.

CANCRORUM OCULI *dicti* [*Ed.*]

Cancer astacus Lin.

Crabs eyes.

The Edinburgh college are, we think, in the right in retaining this article in preference to the former, as being a more pure absorbent earth; but it is with little propriety that

that they have retained the ancient name, which has often led to an absurd mistake: for the article denominated crabs eyes is a stony concretion found in the head, stomach, and other parts of a particular species of crab. Hence in the best foreign pharmacopœias they are denominated cancrorum calculi, lapilli, &c.

The calculi cancrorum are generally about the size of peas, or larger. They are of a spherical shape, but a little flatted on one side. They are of a white colour, but sometimes with a reddish or blueish cast, and internally of a laminated structure. The greatest part of them are the produce of Muscovy, particularly of the river Don, where the dead crabs are laid upon the banks in heaps, to putrify, after which the stones are picked out.

The earth of crab stones is said to differ materially from the preceding article, in not being convertible into quicklime; but their medical differences are very inconsiderable; solutions of the two articles in vinegar, or other vegetable or animal acids, being nearly alike. As well as the former article, they are employed as absorbents, and are sometimes very useful in the diarrhœas of children, arising from acidity, where any objection occurs to the employment of magnesia.

Crabs stones are said by most writers on the materia medica to be frequently counterfeited with tobacco-pipe clay, or compositions of chalk with mucilaginous substances. This piece of fraud, if really practised, may be very easily discovered; the counterfeits wanting the leafy texture which is observed upon breaking the genuine; more readily imbibing water; adhering to the tongue; and dissolving in vinegar, or the stronger acids diluted with water, either entirely, or not at all, or by piecemeal; whilst the true crabs eyes, digested in these liquors, become soft and transparent, their original form remaining the same: this change is owing to the earthy part, on which depended their opacity and hardness, being dissolved by the gentle action of the acid, which leaves the conglutinating matter unhurt.

CANELLA ALBA [*Lond. Ed.*] *Cortex*

Winterania canella Lin.

Canella alba.

This bark is brought to us rolled up into long quills, thicker than cinnamon, and both outwardly and inwardly of a whitish colour, lightly inclining to yellow. It is the produce of a tall tree growing in great plenty in the low lands in Jamaica, and other American islands. Infusions of it in water are of a yellowish colour, and smell of the canella; but they are rather bitter than aromatic. Tinctures in rectified spirit have the warmth of the bark, but little of its smell. Proof-spirit dissolves the aromatic as well as the bitter matter of the canella, and is therefore the best menstruum.

The canella is the interior bark, freed from an outward thin rough one, and dried in the shade. The shops distinguish two sorts of canella, differing from each other in the length and thickness of the quills; they are both the bark of the same tree, the thicker being taken from the trunk, and the thinner from the branches. This bark is a warm pungent aromatic, not of the most agreeable kind: nor are any of the preparations of it very grateful.

Canella alba is often employed where a warm stimulant to the stomach is necessary, and as a corrigent of other articles. It is now, however, little used in composition by the London college; the only

only officinal formula which it enters being the pulvis aloeticus: but with the Edinburgh college it is an ingredient in the tinctura amara, vinum amarum, vinum rhei, &c. It is useful as covering the taste of some other articles.

CANNABIS [*Brun.*] *Semen.*
Cannabis sativa Lin.
Hemp; the seed.

This plant, when fresh, has a rank narcotic smell: the water in which the stalks are soaked, in order to facilitate the separation of the tough rind for mechanic uses, is said to be violently poisonous, and to produce its effects almost as soon as drank. The seeds also have some smell of the herb; their taste is unctuous and sweetish; on expression they yield a considerable quantity of insipid oil; hence they are recommended (boiled in milk, or triturated with water into an emulsion) against coughs, heat of urine, and the like. They are also said to be useful in incontinence of urine, and for restraining venereal appetites; but experience does not warrant their having any virtues of this kind. But although the seeds only have hitherto been principally in use, yet other parts of the plant seem to be more active, and may be considered as deserving farther attention.

CANTHARIS [*Lond. Ed.*]
Meloe vesicatorius Lin.
The Spanish fly.

These insects are of a shining green colour, intermingled with more or less of a blue and a gold yellow. They are found adhering to different kinds of trees and herbs, in Spain, Italy, and France; the largest come from Italy, but the smaller kind from Spain are preferred.

Cantharides are extremely acrimonious; applied to the skin, they first inflame, and afterwards excoriate the part, raising a more perfect blister than any of the vegetable acrids, and occasioning a more plentiful discharge of serum. Even the external application of cantharides is often followed by a strangury, accompanied with thirst and feverish heat: this inconvenience may be remedied by soft unctuous or mucilaginous liquors liberally drank. The strangury is probably owing to the action of the absorbed active parts on the neck of the bladder.

Cantharides taken internally, often occasion a discharge of blood by urine, with exquisite pain: if the dose be considerable, they seem to inflame and exulcerate the whole intestinal canal; the stools become mucous and purulent; the breath fetid and cadaverous; intense pains are felt in the lower belly; the patient faints, grows giddy, raving mad, and dies. All these terrible consequences have sometimes happened from a few grains. Herman relates, that he has known a quarter of a grain inflame the kidneys, and occasion bloody urine with violent pain. There are nevertheless cases in which this stimulating fly, given in larger doses, proves not only safe but of singular efficacy for the cure of diseases that yield little to medicines of a milder class. In phlegmatic habits, where the viscera are overloaded, and the kidneys and ureters obstructed with thick viscid mucous matter, cantharides have excellent effects: here the abounding mucus defends the solids from the acrimony of the fly, till it is itself expelled; when the medicine ought to be discontinued. Groenvelt employed cantharides with great success in dropsies, obstinate suppressions of urine, and ulcerations of the bladder; giving very considerable doses made into boluses with camphor; and interposing large draughts of emulsions, milk,

milk, or other emollient liquids; by this means the excessive irritation which they would otherwise have occasioned, was in a great measure prevented. The camphor did not perhaps contribute so much to this effect as is generally imagined; since it has no sensible quality that promises any considerable abatement of the acrimony of cantharides: nitre would answer all that the camphor is supposed to perform: this, with milk, or emollient mucilaginous liquors, drank in large quantity, are the best correctors. Cantharides, in very small doses, may be given with safety also in other cases. Dr Mead observes, that the obstinate gleetings which frequently remain after the cure of venereal maladies, and which rarely yield to balsamic medicines, are effectually remedied by cantharides; and that no one remedy is more efficacious in leprous disorders; in which last, proper purgatives are to be occasionally taken during the use of the cantharides. The best and safest preparation of cantharides for these purposes, is a spirituous tincture; and indeed in all cases the tincture is far preferable, for internal use, to the fly in substance.

On an idea of the stimulus accumulated about the genital organs being propagated to parts in the neighbourhood, the internal use of the tincture has also been recommended in diabetes, leucorrhœa, amenorrhœa, &c. but from the dangerous effects sometimes observed from seemingly inconsiderable doses, cantharides are now almost entirely confined to external application.

They are sometimes used as merely rubefacient, as in friction, with the tincture on indolent swellings, or in form of weak plaster, but most commonly in form of full blister, chiefly with a view of relieving torpor, of determining the impetus of the blood from the part affected to the part of application, of discharging serum, and of relieving spasms in certain internal parts.

The virtues of cantharides are extracted by rectified spirit of wine, proof-spirit, and water; but do not arise in distillation. The watery and spirituous extracts blister as freely as the fly in substance; whilst the fly remaining after the several menstrua have performed their office, is to the taste insipid, and does not in the least blister, or inflame the skin; hence the *unguentum ex infuso cantharidum:* But besides this, cantharides are the active basis of several other officinal preparations, as the tinctura cantharidis, emplasticum cantharidis, unguentum cantharidis, &c.

CAPPARIS [*Brun.*] *Radicis cortex et florum gemmæ.*

Capparis spinosa Lin.

Caper bush; the bark of the root, and buds of the flowers.

This is a low prickly bush, found wild in Italy and other countries; it is raised with us by sowing the seeds upon old walls, where they take root between the bricks, and endure for many years.

The bark of the root is pretty thick, of an ash colour, with several transverse wrinkles on the surface; cut in slices and laid to dry, it rolls up into quills. This bark has a bitterish acrid taste; it is reckoned aperient and diuretic; and recommended in several chronic disorders, for opening obstructions of the viscera.

The buds, pickled with vinegar, &c. are used at table. They are supposed to excite appetite, and promote digestion: and to be particularly useful, as detergents and aperients, in obstructions of the liver and spleen. Their taste and virtues depend

depend more upon the ſaline matter introduced into them, than on the caper buds.

CARDAMINE [*Lond. Ed.*] *Flos.*

Cardamine pratenſis Lin.

Ladies Smock; the flower.

The cardamine is a perennial plant, which grows in meadow grounds, ſends forth purpliſh flowers in the ſpring; and in its ſenſible qualities reſembles the *naſturtium aquaticum.* Long ago it was employed as a diuretic; and of late it has been introduced in nervous diſeaſes, as epilepſy, hiſteria, choræa, aſthma, &c. A dram or two of the powder is given twice or thrice a-day. It has little ſenſible operation, except that it ſometimes ſweats.

CARDAMOMUM MINUS [*Lond. Ed.*] *Semen.*

Amomum cardamomum Lin.

Leſſer cardamom.

Formerly a place was given in our pharmacopœias to different kinds of cardamom ſeeds, and particularly to the large as well as the ſmall; but the latter, though ſcarce half the ſize of the former, are conſiderably ſtronger both in ſmell and taſte. Hence this ſort has long ſupplied the place of the other in the ſhops, and is the only one now directed.

Cardamom ſeeds are a very warm, grateful, pungent aromatic, and frequently employed as ſuch in practice: they are ſaid to have this advantage, that notwithſtanding their pungency, they do not, like thoſe of the pepper kind, immoderately heat or inflame the bowels. Both water and rectified ſpirit extract their virtues by infuſion, and elevate them in diſtillation; with this difference, that the tincture and diſtilled ſpirit are conſiderably more grateful than the infuſion and diſtilled water: the watery infuſion appears turbid and mucilaginous; the tincture made in ſpirit, limpid and tranſparent. The huſks of the ſeeds, which have very little ſmell or taſte, may be commodiouſly ſeparated, by committing the whole to the mortar, when the ſeed will readily pulverize, ſo as to be freed from the ſhell by the ſieve: this ſhould not be done till juſt before uſing them; for if kept without the huſks, they ſoon loſe conſiderably of their flavour.—The officinal preparations of theſe ſeeds are ſpirituous tinctures, ſimple and compound: they are employed alſo as a ſpicy ingredient in ſeveral of the officinal compoſitions.

CARDIACA [*Gen.*] *Folia.*

Leonurus cardiaca Lin.

Motherwort; the leaves.

This plant is common in waſte places, and found in flower greateſt part of the ſummer. The leaves have a bitter taſte, and a pretty ſtrong ſmell: they are ſuppoſed to be uſeful in hyſteric diſorders, to ſtrengthen the ſtomach, to promote urine; and indeed it may be judged from their ſmell and taſte, that their medicinal virtues are conſiderable, though they are now rejected both from the London and Edinburgh pharmacopœias.

CARDUUS BENEDICTUS [*Lond. Ed.*] *Herba.*

Centaurea benedicta Lin.

Bleſſed thiſtle; the leaves.

This is an annual plant, cultivated in gardens: it flowers in June and July, and perfects its ſeeds in the autumn. The herb ſhould be gathered when in flower, dried in the ſhade, and kept in a very dry airy place, to prevent its rotting or growing mouldy, which it is very apt to do. The leaves have a penetrating bitter taſte, not very ſtrong or very durable, accompanied with

an ungrateful flavour, which they are in great measure freed from by keeping. Water extracts, in a little time, even without heat, the lighter and more grateful parts of this plant; if the digestion be continued for some hours, the disagreeable parts are taken up; a strong decoction is very nauseous and offensive to the stomach. Rectified spirit gains a very pleasant bitter taste, which remains uninjured in the extract.

The virtues of this plant seem to be little known in the present practice. The nauseous decoction is sometimes used to provoke vomiting; and a strong infusion to promote the operation of other emetics. But this elegant bitter, when freed from the offensive parts of the herb, may be advantageously applied to other purposes. We have frequently experienced excellent effects from a light infusion of carduus in loss of appetite, where the stomach was injured by irregularities. A stronger infusion made in cold or warm water, if drank freely, and the patient kept warm, occasions a plentiful sweat, and promotes all the secretions in general.

The seeds of this plant are also considerably bitter, and have been sometimes used with the same intention as the leaves.

CARICA [*Lond. Ed.*] *Fructus.*
Ficus carica Lin.
The fig; the dried fruit.

The principal use of these is as a soft, emollient sweet; with this intention they enter the pectoral decoction and lenitive electuary of the shops. They are also esteemed by some as suppuratives, and hence have a place in maturating cataplasms; and they are sometimes applied by themselves as warm as they can easily be borne, to promote the suppuration of a phlegmon, particularly when so situated that other cataplasms cannot easily be kept applied.

CARLINA [*Gen.*] *Radix.*
Carlina acaulis Lin.
Carline thistle; the root.

This is a very prickly sort of thistle, growing spontaneously in the southern parts of France, Spain, Italy, and the mountains of Switzerland; from whence the dried roots are brought to us. This root is about an inch thick, externally of a pale rusty brown colour, corroded as it were on the surface, and perforated with numerous small holes, appearing when cut as if worm-eaten. It has a strong smell, and a subacrid, bitterish, weakly aromatic taste. Carlina is looked on as a warm diaphoretic and alexipharmac; and has been for some time greatly esteemed by foreign physicians, but never came much into use among us: the present practice has entirely rejected it; nor is it often to be met with in the shops. Hoffman relates, that he has observed a decoction of it in broth to occasion vomiting.

CARPOBALSAMUM [*Brun.*] *Fructus.*
Amyris Gileadensis Lin.
Carpobalsam; the fruit.

This is the fruit of the tree that yields the opobalsam or balsam of Gilead. It is about the size of a pea, of a whitish colour, inclosed in a dark brown wrinkled bark. This fruit, when in perfection, has a pleasant warm glowing taste, and a fragrant smell, resembling that of the opobalsamum itself. It is very rarely found in the shops; and such as we now and then do meet with, has almost entirely lost its smell and taste. It had formerly a place in the mithridate and theriaca formulæ, now banished from our pharmacopœias; but even then the college permitted

permitted cubebs to be employed as a ſubſtitute for the carpobalſamum, which could ſeldom be procured; and it is probably on this account that it has now no place in our liſts.

CARTHAMUS [*Brun.*] *Semen.*
Carthamus tinctorius Lin.
Baſtard ſaffron; the ſeeds.

The baſtard ſaffron is a ſoft kind of thiſtle, with only a few prickles about the edges of the leaves. It is cultivated in large quantity in ſome places of Germany; from whence the other parts of Europe are ſupplied with the flowers as a colouring drug, and the ſeeds as a medicinal one. The flowers, well cured, are not eaſily diſtinguiſhable by the eye from ſaffron; but their want of ſmell readily diſcovers them. The ſeeds are white, ſmooth, of an oblong roundiſh ſhape, yet with four ſenſible corners, about a quarter of an inch in length, ſo heavy as to ſink in water; of a viſcid ſweetiſh taſte, which in a little time becomes acrid and nauſeous. Theſe ſeeds have been celebrated as a cathartic: they operate very ſlowly, and for the moſt part diſorder the bowels, eſpecially when given in ſubſtance; triturated with aromatic diſtilled waters, they form an emulſion leſs offenſive, yet inferior in efficacy, to more common purgatives.

CARUON [*Lond. Ed.*] *Semen.*
Carum carvi Lin.
Caraway; the ſeeds.

Caraway is an umbelliferous plant, cultivated with us in gardens, both for culinary and medicinal uſe. The ſeeds have an aromatic ſmell, and a warm pungent taſte. Theſe are in the number of the four greater hot ſeeds; and frequently employed as a ſtomachic and carminative in flatulent colics, and the like.

They were formerly the baſis of ſeveral officinal preparations, and entered many compoſitions by way of a corrigent. But altho' they be now leſs frequently employed than before, yet a place is ſtill given to their eſſential oil and diſtilled ſpirit; and they enter the compound ſpirit of juniper, the tincture of ſenna, and ſome other compoſitions.

CARYOPHYLLUM AROMATICUM [*Lond. Ed.*]
Caryophyllus aromaticus Lin.
Cloves.

Cloves are the fruit of a tree growing in the Eaſt-Indies. In ſhape, they ſomewhat reſemble a ſhort thick nail.

Cloves have a very ſtrong agreeable aromatic ſmell, and a bitteriſh pungent taſte, almoſt burning the mouth and fauces. The Dutch, from whom we have this ſpice, frequently mix it with cloves which have been robbed of their oil: theſe, though in time they regain from the others a conſiderable ſhare both of taſte and ſmell, are eaſily diſtinguiſhable by their weaker flavour and lighter colour. Cloves, conſidered as medicines, are very hot ſtimulating aromatics, and poſſeſs in an eminent degree the general virtues of ſubſtances of this claſs. An extract made from them with rectified ſpirit is exceſſively hot and pungent; the diſtilled oil has no great pungency; an extract made with water is nauſeous, and ſomewhat ſtyptic. The only officinal preparation of them is the eſſential oil. Both the cloves themſelves and their oil are ingredients in many officinal compoſitions.

CARYOPHYLLUM RUBRUM [*Lond. Ed.*] *Flos.*

Dianthus caryophyllus Lin.

Clove July-flowers.

A great variety of these flowers are met with in our gardens: those made use of in medicine ought to be of a deep crimson colour, and a pleasant aromatic smell, somewhat like that of cloves: many sorts have scarce any smell at all. The *caryophylla rubra* are said to be cardiac and alexipharmac. Simon Paulli relates, that he has cured many malignant fevers by the use of a decoction of them; which he says powerfully promotes sweat and urine, without greatly irritating nature, and also raises the spirits and quenches thirst. At present the flowers are chiefly valued for their pleasant flavour, which is entirely lost even by light coction; hence the college direct the syrup, which is the only officinal preparation of them, to be made by infusion.

CARYOPHYLLATA [*Brun.*] *Radix.*

Geum urabanum Lin.

Avens; the root.

Avens is a rough plant found wild in woods and hedges. The root has a warm, bitterish, astringent, taste, and a pleasant smell, somewhat of the clove kind, especially in the spring, and when produced in dry warm soils. Parkinson observes, that such as is the growth of moist soils has nothing of this flavour. This root has been employed as a stomachic, and for strengthening the tone of the viscera in general: it is still in some esteem in foreign countries, though not taken notice of among us. It yields on distillation an elegant odoriferous essential oil, which concretes into a flaky form

Besides the geum urbanum, another species of the geum, the rivale, has a place in some pharmacopœias, under the title of *Caryophyllata aquatica.* The root of this species, which is larger than the other, is said to be employed by the Indians in South America for the cure of intermittents, and to be equally successful with the Peruvian bark. Dr Withering mentions, that the powder of the root is used for this purpose by the Canadians. But we do not know that with this intention it has been much employed in Britain.

CASCARILLA [*Lond. Ed.*] *Cortex.*

Croton cascarilla Lin.

Cascarilla; the bark.

This bark is imported into Europe from the Bahama islands, and particularly from one of them of the name of Elatheria; from which circumstance it was long known by the title of Eleutheria. The cascarilla is in general brought to us either in curled pieces, or rolled up into short quills, about an inch in width, somewhat resembling in appearance the Peruvian bark. It is covered on the outside with a rough whitish matter; and in the inside it is of a brownish cast. When broken, it exhibits a smooth close dark brown surface.

This bark, when freed from the outer whitish coat, which is insipid and inodorous, has a light agreeable smell, and a moderately bitter taste, accompanied with a considerable aromatic warmth. It is easily inflammable, and yields when burning a very fragrant smell somewhat resembling that of musk, a property which distinguishes the cascarilla from all other barks. It was first introduced into Europe about the end of the last century, and seems first to have been used in Germany, where it is still in very high esteem. There it is frequently employed against

gainſt common intermittent fevers, in preference to the Peruvian bark, as being leſs ſubject to ſome inconveniences, which the latter on account of its great aſtringency is apt to occaſion. It is alſo ſaid to have been employed with great ſucceſs in ſome very dangerous epidemic fevers attended with petechiæ: and it is frequently employed with advantage in flatulent colics, internal hæmorrhagies, dyſenteries, diarrhœas, and ſimilar diſorders. In Britain it has been uſed by ſome practitioners, particularly by the late Dr Keir of London, who was of opinion that it was by no means employed ſo generally as it deſerved to be.

Its virtues are partially extracted by water, and totally by rectified ſpirit, but it is moſt effectual when given in ſubſtance.

CASSIA FISTULARIS

[*Lond. Ed.*] *Fructus.*

Caſſia fiſtula Lin.

Caſſia of the cane; the fruit.

This is the fruit of an oriental tree reſembling the walnut.

This fruit is a cylindrical pod, ſcarce an inch in diameter; a foot or more in length: the outſide is a hard brown bark; the inſide is divided by thin tranſverſe woody plates, covered with a ſoft black pulp of a ſweetiſh taſte, with ſome degree of acrimony. There are two ſorts of this drug in the ſhops; one brought from the Eaſt-Indies, the other from the Weſt: the canes or pods of the latter are generally large, rough, thick-rinded, and the pulp nauſeous; thoſe of the former are leſs, ſmoother, the pulp blacker, and of a ſweeter taſte; this ſort is preferred to the other. Such pods ſhould be choſen as are weighty, new, and do not make a rattling noiſe (from the ſeeds being looſe within them) when ſhaken. The pulp ſhould be of a bright ſhining black colour, and a ſweet taſte, not harſh, which happens from the fruit being gathered before it has grown fully ripe, or ſourish, which it is apt to turn upon keeping: it ſhould neither be very dry nor very moiſt, nor at all mouldy; which, from its being kept in damp cellars, or moiſtened, in order to increaſe its weight, it is very ſubject to be. Greateſt part of the pulp diſſolves both in water and in rectified ſpirit; and may be extracted from the cane by either. The ſhops employ water, boiling the bruiſed pod therein, and afterwards evaporating the ſolution to a due conſiſtence.

The pulp of caſſia is a gentle laxative medicine, and frequently given, in a doſe of ſome drams, in coſtive habits. Some direct a doſe of two ounces or more as a cathartic, in inflammatory caſes, where the more acrid purgatives have no place: but in theſe large quantities it generally nauſeates the ſtomach, produces flatulencies, and ſometimes gripings of the bowels, eſpecially if the caſſia be not of a very good kind: theſe effects may be prevented by the addition of aromatics, and exhibiting it in a liquid form. Geoffroy ſays, it does excellent ſervice in the painful tenſion of the belly, which ſometimes follows the imprudent uſe of antimonials; and that it may be advantageouſly acuated with the more acrid purgatives, or antimonial emetics, or employed to abate their force. Valliſnieri relates, that the purgative virtue of this medicine is remarkably promoted by manna; that a mixture of four drams of caſſia and two of manna, purges as much as twelve drams of caſſia or thirty-two of manna alone. Sennertus obſerves, that the urine is apt to be turned of a green colour by the uſe of caſſia:

and ſometimes, where a large quantity has been taken, blackiſh. This drug gives name to an officinal electuary, and is an ingredient alſo in another.

CASSIA LIGNEA [*Ed.*] *Cortex, flores nondum explicatæ.*
Laurus caſſia Lin.
Caſſia; the bark and flowers.

This bark, which is imported from different parts of the Eaſt Indies and from China, has a very exact reſemblance to the cinnamon, and is obtained from a ſpecies of the ſame genus of tree. It is diſtinguiſhable from the cinnamon by being of a thicker and coarſer appearance, and by its breaking ſhort and ſmooth, while the cinnamon breaks fibrous and ſhivery.

This bark reſembles cinnamon ſtill more exactly in its aromatic flavour than in its external appearance, and ſeems only to differ from it in being ſomewhat weaker, in abounding more with a viſcous mucilaginous matter, and in being leſs aſtringent. Accordingly, it has not only a place in the Edinburgh pharmacopœia, but is alſo the baſis of a diſtilled water. It is perhaps ſurpriſing that the London college have given it no place in their liſts. But although it does not enter their pharmacopœia, yet we may venture to aſſert, that it will not be neglected by the apothecaries. At preſent it is very common with many of them to ſubſtitute the caſſia in every caſe for the more expenſive article cinnamon: and indeed almoſt the whole of what is at preſent ſold under the title either of ſimple or ſpirituous cinnamon-water, is entirely prepared from caſſia, and not even entirely from the bark, but from a mixture of the bark and buds.

CASTOREUM [*Lond. Ed.*]
Caſtor fiber Lin.
Caſtor.

Caſtor appears to be a peculiar fatty depoſition found in cells or bags ſituated near the rectum in the beaver, a four-footed amphibious animal, frequent in ſeveral parts of Europe and America. The beſt comes from Ruſſia: this is in large round hard cods, which appear, when cut, full of a brittle red liver-coloured ſubſtance, interſperſed with membranes and fibres exquiſitely interwoven. An inferior ſort is brought from Dantzick; this is generally fat and moiſt. The worſt of all is that of New England, which is in longiſh thin cods. But of late, ſome apparently not inferior to the Ruſſian caſtor, has been brought from Hudſon's bay.

Caſtor has a ſtrong not agreeable ſmell, and an acrid, biting, bitteriſh nauſeous taſte. Water extracts the nauſeous part, with little of the finer bitter; rectified ſpirit extracts this laſt, without much of the nauſeous: proof-ſpirit both: water elevates the whole of its flavour in diſtillation; rectified ſpirit brings over nothing.

Caſtor is looked upon as one of the capital nervine and antihyſteric medicines: ſome celebrated practitioners have nevertheleſs doubted its virtues; and Newmann and Stahl declare it inſignificant. Experience, however, has ſhown, that the virtues of caſtor are conſiderable, though they are certainly far leſs than they have been generally ſuppoſed to be. Its officinal preparations are a ſpirituous tincture, and a compound tincture of caſtor. It is an ingredient in ſome other compoſitions, as the compound powder of myrrh.

CASUMUNAR [*Brun.*]
This is a tuberous root, an inch

or more in thickness, marked on the surface with circles or joints like galangal, of a brownish or ash colour on the outside, and a dusky yellowish within; it is brought from the East-Indies, cut into transverse slices: what kind of plant it produces is not known.

Casumunar has a warm bitterish taste, and an aromatic smell, somewhat resembling that of ginger. It has been celebrated in hysteric cases, epilepsies, palsies, loss of memory, and other disorders: the present practice sometimes employs it as a stomachic and carminative, but it is not so much used or known as it deserves to be.

CATECHU, *Vulgo terra Japonica* [*Lond. Ed.*]

Mimosa catechu Lin.

Catechu; the extract.

This vegetable extract, which has long had, but very improperly, the name of *terra Japonica*, is the product of a plant growing in the East Indies. A particular account of the vegetable from whence it is obtained, as well as of the method of preparation, was some time ago published by Dr Kerr in the London Medical Observations. The only earth which it contains, consists entirely of adhering impurities from the furnaces or kilns in which it is prepared. Hence it is with great propriety, that in some of the foreign pharmacopœias a succus japonicus depuratus is introduced, although not adopted either by the London or Edinburgh colleges.

The extract of catechu in its purest state is a dry and pulverable substance. Outwardly it is of a reddish colour, internally of a shining dark brown, with a slight cast of red. It is a mild, but at the same time a powerful astringent. It is more agreeable in taste than most other substances of that class. It leaves in the mouth a kind of sweetness and mucilaginous feel. It may be usefully employed for most purposes where an astringent is indicated, provided the most powerful be not requisite. But it is particularly useful in alvine fluxes; and where these require the use of astringents, we are acquainted with no one equally beneficial. Besides this, it is employed also in uterine profluvia, in laxity and debility of the viscera in general, in catarrhal affections, and various other diseases where astringents are indicated. It is often suffered to dissolve leisurely in the mouth, as a topical astringent for laxities and exulcerations of the gums, for aphthous ulcers in the mouth, and similar affections: And it is in some other cases applied externally both under the form of solution and of ointment.

Catechu dissolves almost entirely in water excepting its impurities. But these are in general so considerable in point of quantity, that Dr Lewis computes them to constitute one eighth part of the mass. Of the pure matter, rectified spirit dissolves about seven-eighths into a deep red liquor; the part which it leaves undissolved is an almost insipid mucilaginous substance.

Catechu is the basis of several fixed formulæ in our pharmacopœias, particularly of a tincture and an electuary: But one of the best forms under which it can be exhibited is that of simple infusion in warm water, with a proportion of cinnamon or cassia; for by this means it is at once freed from its impurities, and improved by the addition of the aromatic.

CENTAURIUM MAJOR *Radix:*

Centaurea centaurium Lin.

Greater centaury; the root.

The greater centaury is a large

plant, cultivated in gardens. The root has a rough ſomewhat acrid taſte, and abounds with a red viſcid juice: its rough taſte has gained it ſome eſteem as an aſtringent; its acrimony as an aperient; and its glutinous quality as a vulnerary: the preſent practice takes little notice of it with any intention.

CENTAURIUM MINUS [*Lond. Ed.*] *Cacumen.*
Gentiana centaurium Lin.
Leſſer centaury; the top.

This grows wild in many parts of England, in dry paſture grounds, and amongſt corn. The tops are an uſeful aperient bitter.

CEPA [*Suec.*] *Radix.*
Allium cepa Lin.
Onion; the root.

Onions differ from other bulbous-rooted plants, in having ſingle roots, or ſuch as cannot be parted ſo as to increaſe the plant. Theſe roots are conſidered rather as articles of food than of medicine: they are ſuppoſed to afford little or no nouriſhment, and when eaten liberally produce flatulencies, occaſion thirſt, headachs, and turbulent dreams: in cold phlegmatic habits, where viſcid mucus abounds, they doubtleſs have their uſe; as by their ſtimulating quality they tend to excite appetite, attenuate thick juices, and promote their expulſion: by ſome they are ſtrongly recommended in ſuppreſſions of urine and in dropſies. The chief medicinal uſe of onions in the preſent practice is in external applications, as a cataplaſm for ſuppurating tumours, &c.

CERA FLAVA [*Lond. Ed.*]
Yellow bees wax.

This is a ſolid concrete obtained from the honeycombs after the honey is got out, by heating and preſſing them betwixt iron plates. The beſt ſort is of a lively yellow colour, and an agreeable ſmell, ſomewhat like that of honey; when new, it is toughiſh yet eaſy to break; by age it becomes harder and more brittle, it loſes its fine colour, and in great meaſure its ſmell.

CERA ALBA [*Lond. Ed.*]
White wax.

White wax is prepared from the yellow, by reducing it into thin flakes, and expoſing it for a length of time to the air; when ſufficiently bleached, it is melted, and caſt into cakes. The beſt ſort is of a clear and almoſt tranſparent whiteneſs, and of a light agreeable ſmell like that of the yellow wax, but much weaker.

The chief medical uſe of wax is in cerates, plaſters, unguents, &c. as an emollient for promoting ſuppuration, &c. It readily unites with oils and animal fats, but not with watery or ſpirituous liquors. It is given alſo internally in diarrhœas and dyſenteries, when mixed with oily ſubſtances.

CERASUS [*Suec.*] *Folia, fructus, gummi.*
Prunus ceraſus Lin.
The cherry; the leaves, fruit, and gum.

Of this fruit a conſiderable number of varieties are cultivated in our gardens; particularly the ſweet cherry with a black juice; the pleaſantly-ſouriſh cherry, with a colourleſs juice; and the very ſour cherry, with a blood red juice; commonly called black, red, and morello cherries.

Theſe fruits, eſpecially the acid ſorts, are very uſeful and agreeable coolers and quenchers of thirſt; and are ſometimes directed with this intention, in hot bilious, or febrile diſtempers. Boerhaave was extremely fond of theſe and the other fruits called *horæi*, as aperients in ſome

ſome chronic caſes; and declares himſelf perſuaded, that there is no kind of obſtruction of the viſcera capable of being removed by medicine, which will not yield to the continued uſe of theſe. They are rather, however, uſed as an article of diet or luxury, than in the way of medicine. And accordingly have no place in the London or Edinburgh pharmacopœias.

Beſides the fruit of the cherry, the leaves alſo are now introduced into the Swediſh pharmacopœia; but they do not enter any of their fixed formulæ, and we know not for what purpoſe they are particularly intended.

The gum of the cherry is a pretty pure vegetable mucilage, nearly approaching to gum arabic.

CEREFOLIUM [*Suec.*] *Herba.*

Sandix cerefolium Lin.

Chervil; the plant.

This is a low annual plant ſomewhat like parſley, commonly cultivated in gardens for culinary purpoſes. This plant is grateful both to the palate and ſtomach, gently aperient, and diuretic. Geoffroy aſſures us, that he has found it from experience to be of excellent ſervice in dropſies: that, in this diſorder, it promotes the diſcharge of urine when ſuppreſſed; renders it clear, when feculent and turbid; and when high and fiery, of a paler colour; that it acts mildly without irritation, and tends rather to allay than excite inflammation. He goes ſo far as to ſay, that dropſies which do not yield to this medicine, are ſcarce capable of being cured by any other. He directs the juice to be given in the doſe of three or four ounces every fourth hour, and continued for ſome time, either alone, or in conjunction with nitre and ſyrup of the five opening roots.

CHALYBS, vide FERRUM.

CHAMÆDRYS [*Suec.*] *Herba.*

Teucrium chamædrys.

Germander; the herb.

This is a low ſhrubby plant, cultivated in gardens. The leaves, tops, and ſeeds have a bitter taſte, with ſome degree of aſtringency and aromatic flavour. They are recommended as ſudorific, diuretic, and emmenagogue, and for ſtrengthening the ſtomach and viſcera in general. With ſome they have been in great eſteem in intermittent fevers, and alſo in ſcrophulous and other chronic diſorders; but at preſent they are very little in uſe, and have now no place either in the London or Edinburgh pharmacopœias.

CHAMÆMELUM [*Lond. Ed.*] *Flos ſimplex.*

Anthemis nobilis Lin.

Chamomile; the ſingle flower.

Theſe have a ſtrong not ungrateful aromatic ſmell, and a very bitter nauſeous taſte. They are accounted carminative, aperient, emollient, and in ſome degree anodyne; and ſtand recommended in flatulent colics, for promoting the uterine purgations, in ſpaſmodic pains, and the pains of childbed women: ſometimes they have been employed in intermittent fevers, and in nephritis. Theſe flowers are frequently alſo uſed externally in diſcutient and antiſeptic fomentations, and in emollient glyſters: they enter the decoctum pro enemate, et decoctum pro fomento of our pharmacopœias. An eſſential oil was formerly directed to be prepared from them, but it is now omitted. A ſimple watery infuſion of them taken in a tepid ſtate is at preſent frequently employed to promote the operation of emetics.

CA-

CAMÆPITHYS [*Succ.*] *Herba.*

Teucrium chamæpithys.

Ground-pine; the herb.

This is a low hairy plant, clammy to the touch, of a ſtrong aromatic reſinous ſmell, and a bitter roughiſh taſte. It is recommended as an aperient and vulnerary, and alſo in gouty and rheumatic pains.

CHEIRI [*Brun.*] *Flos.*

Cheiranthus cheiri Lin.

Wall-flower.

This grows upon old walls and among rubbiſh, in ſeveral parts of England. The flowers have a pleaſant ſmell, and a ſubacrid, bitteriſh, not agreeable taſte: they are ſaid to be cordial, anodyne, aperient, and emmenagogue, but are wholly neglected by practice.

CHELIDONIUM MAJUS [*Brun.*] *Herba, radix.*

Chelidonium majus Lin.

Celandine: the leaves and root.

This plant grows upon old walls, among rubbiſh, and in waſte ſhady places. The herb is of a blueiſh green colour; the root of a deep red; both contain a gold-coloured juice; their ſmell is diſagreeable; the taſte ſomewhat bitteriſh, very acrid, biting and burning the mouth; the root is the moſt acrid. The juice of celandine has long been celebrated in diſorders of the eyes; but it is too ſharp, unleſs plentifully diluted, to be applied with ſafety to that tender organ. It has been ſometimes uſed, and it is ſaid with good ſucceſs, for extirpating warts, cleanſing old ulcers, and in cataplaſms for the herpes miliaris. This acrimonious plant is rarely given internally; the virtues attributed to it are thoſe of a ſtimulating aperient, diuretic, and ſudorific: it is particularly recommended in the ſlow kind of jaundice, where there are no ſymptoms of inflammation, and in dropſies; ſome ſuppoſe the root to have been Helmont's ſpecific in the hydrops aſcites. Half a dram or a dram of the dry root is directed for a doſe; or an infuſion in wine of an ounce of the freſh root.

CHELIDONIUM MINUS [*Brun.*] *Radix.*

Ranunculus ficaria Lin.

Pilewort; the root.

This is a very ſmall plant, found in moiſt meadows and by hedgeſides: the roots conſiſt of ſlender fibres, with ſome little tubercles among them, which are ſuppoſed to reſemble the hæmorrhoids; from thence it has been concluded, that this root muſt needs be of wonderful efficacy for the cure of that diſtemper: to the taſte, it is little other than mucilaginous; and altho' ſtill retained in ſeveral of the foreign pharmacopœias, it is hardly in uſe in this country.

CHINA [*Succ.*] *Radix.*

Smilax china Lin.

China root.

This root is brought from the Eaſt Indies. But beſides the oriental china root, there is alſo a root under the ſame name brought from the Weſt Indies, obtained from a different ſpecies of the ſame genus. They are both longiſh, full of joints, of a pale reddiſh colour, of no ſmell, and very little taſte: the oriental, which is the moſt eſteemed, is conſiderably harder and paler coloured than the other. Such ſhould be choſen as is freſh, cloſe, heavy, and upon being chewed appears full of a fat unctuous juice. China root was either unknown or diſregarded by the ancient phyſicians. It was firſt introduced into Europe about the year 1535, with the character

racter of a specific against venereal and cutaneous disorders; and as such was made use of for some time, but at length gave place to medicines of a more powerful kind. It is generally supposed to promote insensible perspiration and the urinary discharge; and by its unctuous quality to obtund acrimonious juices.

CICHOREUM [*Suec.*] *Radix, herba.*

Cichoreum intybus Lin.

Wild succory; the roots and herb.

The root has a moderately bitter taste, with some degree of roughness; the leaves are somewhat less bitter: the roots, stalks, and leaves yield, on being wounded, a milky saponaceous juice. By culture this plant loses its green colour and its bitterness, and in this state is employed in salads: the darker coloured and more deeply jagged the leaves, the bitterer is their taste. Wild succory is an useful detergent, aperient, and attenuating medicine; acting without much irritation, tending rather to cool than to heat the body, and at the same time corroborating the tone of the intestines. The juice taken in large quantities, so as to keep up a gentle diarrhœa, and continued for some weeks, has been found to produce excellent effects in cutaneous affections and other chronical diseases.

CICUTA [*Lond. Ed.*] *Herba, flos, semen.*

Conium maculatum Lin.

Hemlock; the leaves, flower, and seed.

This is a large umbelliferous plant, common about the sides of fields, under hedges, and in moist shady places: the leaves are winged, divided into a great number of small fern like sections, of a dark or blackish green colour, and appearing as it were rough; the stalk is hollow (as is likewise great part of the root after the stalk has arisen), and spotted with several blackish, red, or purple spots. Hemlock is sometimes applied externally in the form of decoction, infusion, or poultice, as a discutient. These are apt to excoriate, and their vapour is to some particularly disagreeable and hurtful. The stalks are insignificant, and the roots very virulent. With regard to its virtue when taken internally, it has been generally accounted poisonous; which it doubtless is, in a high degree, when used in any considerable quantity. But Dr Stoerk has lately found, that in certain small doses it may be taken with great safety; and that, without at all disordering the constitution, or even producing any sensible operation, it sometimes proves a powerful resolvent in many obstinate disorders. In scirrhus, the internal and external use of hemlock has been found useful, but then mercury has been generally used at the same time. In open cancer, it often abates the pains, and is free from the constipating effects of opium. It is likewise used in scrophulous tumours and ulcers, and in other ulcers that are only defined by the term ill-conditioned. It is also recommended by some in chincough, and various other diseases. Its common, and perhaps best form, is that of the powdered leaves, in the dose at first of two or three grains a day, which in some cases has been gradually increased to upwards of two ounces a day, without producing giddiness. An extract from the seeds is said to produce giddiness sooner than that from the leaves. Hence, while both the London and Edinburgh colleges have given a place to the succus spissatus cicutæ, into the pharmacopœia of the latter an extractum

tum feminum cicutæ is alſo introduced.

CINARA [*Lond. Ed.*] *Folium.*
Cynara ſcolymus Lin.
Artichoke; the leaves.

The artichoke is a large rough plant, with greyiſh leaves, which is well known in our gardens, as being very commonly cultivated for culinary purpoſes. The leaves are bitter; and on being preſſed give out their bitterneſs along with their juice. This expreſſed juice is given in dropſies, and in ſome inſtances has proved ſucceſsful after other medicines have failed. For this purpoſe, the expreſſed juice paſſed only through a coarſe ſtrainer, is mixed with an equal quantity of white wine, and of this mixture two or three table ſpoonfuls are taken every morning and evening. It operates by promoting diureſis. For this purpoſe, an infuſion of the leaf is alſo uſed; and both the leaves and ſtalks enter into many of the diuretic decoctions uſed by the country people.

CINNABARIS NATIVA [*Brun.*]
Native cinnabar.

This is a ponderous mineral of a red colour, found in Spain, Hungary, and ſeveral other parts of the world. The fineſt ſort is in pretty large maſſes, both externally and internally of an elegant deep red colour, which is much improved upon grinding the maſs into fine powder; There is another ſort, of a good colour, in roundiſh drops, ſmooth without, and ſtriated within.

This mineral appears from chemical experiments to be compoſed of mercury and ſulphur, in ſuch a manner, that the quantity of the former is commonly above ſix times greater than that of the latter: the finer the colour of the cinnabar, the more mercury it is found to hold. Native cinnabar has been by many preferred as a medicine to that made by art: but there does not appear to be any juſt foundation for this preference. The native has ſometimes been obſerved to occaſion nauſea, vomiting, and anxiety: theſe probably proceeded from an admixture of ſome arſenical particles which it could not be freed from by repeated ablution. When pure, it has no quality or medical virtue diſtinct from thoſe of the artificial cinnabar, now ſtyled *Hydrargyrus ſulphuratus ruber*, and afterwards to be mentioned among the mercurial preparations.

CINERES CLAVELLATA [*Lond.*]
Kali impurum.
Ruſſia potaſh.

Potaſh is an impure alkaline ſalt, produced from all land plants, except the tetradynamia claſs, by burning with a cloſe ſmothering heat. In this ſtate they are called weed aſhes, which contain, beſides alkali, charcoal, ſulphur, and a little vitriolated tartar. Theſe foreign matters are partly ſeparated, by mixing the aſhes with water, and paſſing it through a veſſel with holes at the bottom covered with ſtraw. It is then evaporated to the conſiſtence of honey, and afterwards burnt in an oven, from which it acquires a little ſtony matter. In this ſtate, from its colour, it is called pearl aſhes, the *ſal alcalinus fixus vegetabilis* [*Ed.*] If lime be mixed with the aſhes, and paſſed through the veſſel as before, the alkali is conſiderably deprived of its fixed air, is conſequently cauſtic, has a darker colour, and gives a reddiſh ſolution, having diſſolved ſome of the iron of the pot it is prepared

pared in, and from which it is called potash. Large quantities of it are brought to us from America, Russia, and other places. Other kinds of impure vegetable alkali appear in commerce, under the names of cashub, marcost ashes, &c.

CINNAMOMUM [*Lond. Ed.*] *Cortex et ejus oleum essentiale.*
Laurus cinnamomum Lin.
Cinnamon; the bark and its essential oil.

This is a light thin bark, of a reddish colour, rolled up in long quills or canes; of a fragrant, delightful smell, and an aromatic, sweet, pungent taste, with some degree of astringency. It is generally mixed with the cassia bark: this last is easily distinguishable by its breaking over smooth, whilst cinnamon splinters; and by its slimy mucilaginous taste, without any thing of the roughness of the true cinnamon. Cinnamon is a very elegant and useful aromatic, more grateful both to the palate and stomach, than most other substances of this class: by its astringent quality it likewise corroborates the viscera, and proves of great service in several kinds of alvine fluxes, and immoderate discharges from the uterus. An essential oil, a distilled water, a distilled spirit, and a tincture of it, are directed to be kept in the shops; but these are much more frequently prepared from cassia than from cinamon; and in those formulæ in which distillation is employed, the difference is perhaps not very material: but whether it be exhibited under the form of powder or infusion, astringency is only to be looked for from the genuine cinnamon; and this is often required where it is employed as a spicy ingredient in a great number of compositions.

CITRULLUS [*Brun.*] *Semen.*
Cucurbita citrullus Lin.
Citruls; the seed.

This plant is rarely met with among us, unless in botanic gardens. The seeds are in the number of the four greater cold seeds, and agree in quality with the others of that class.

CITRUS [*Suec.*] *Corticis flavedo, oleum, succus.*
Citrus medica Lin.
Citron; the yellow rind, oil, and juice.

The citron is an evergreen tree or shrub, of the same genus with the orange and lemon: it was first brought from Assyria and Media, (whence the fruit is called *mala Assyria*, *mala Medica*) into Greece, and thence into the southern parts of Europe, where it is now cultivated. Citrons are rarely made use of among us: they are of the same quality with lemons, except that their juice is somewhat less acid. They enter, however, a considerable number of formulæ in several of the foreign pharmacopœias, and with us are frequently employed as a condiment.

COCCINELLA [*Lond. Ed.*]
Coccus cacti Lin.
Cochineal.

This is a small, irregular, roundish body, of a dark red colour on the outside, and a deep bright red within: it is brought from Mexico and New Spain. This substance was long supposed to be the seed of a plant; but it appears from chemical experiments to be an animal, and from the accounts of the more celebrated naturalists, an insect, which breeds on the American prickly-pear tree, and adheres thereto without changing its place. Cochineal has been strongly recommended as a sudorific, cardiac, and alexipharmac;

mac; but practitioners have never observed any considerable effects from it. Its greatest consumption is among the scarlet dyers; and in medicine its principal use is as a colouring drug: both watery and spirituous liquors extract its colour. In the London and Edinburgh pharmacopœias, some of the tinctures receive from this drug a fine red colour.

COCHLEARIA HORTENSIS [*Lond. Ed.*] *Folia.*
Cochlearia officinalis Lin.
Garden scurvy-grass; the leaves.

COCHLEARIA MARINA *Folia.*
Cochlearia Anglica Lin.
Sea-scurvy-grass; the leaves.

These plants have little other difference, as to their external appearance, than that expressed in their titles; in taste and medical virtue, the first is considerably the strongest; and hence is alone retained both by the London and Edinburgh colleges; but where either is employed, the latter, collected on our seacoasts, is perhaps most frequently used.

Scurvy-grass is a pungent stimulating medicine; capable of dissolving viscid juices, opening obstructions of the viscera and the more distant glands, and promoting the fluid secretions: it is particularly celebrated in scurvies, and is the principal herb employed in these kinds of disorders in the northern countries.

COFFEA [*Brun.*] *Semen.*
Coffea Arabica Lin.
Coffee; the fruit.

Coffee is the fruit of an oriental shrub now cultivated in the West Indies. This fruit is employed rather as food than as a medicine. The medical effects expected from it are to assist digestion, promote the natural secretions, and prevent or remove a disposition to sleepiness. It has been recommended in spasmodic asthma; and in some cases it is found highly useful in alleviating severe head-ach.

COLCHICUM [*Lond. Ed.*] *Radix.*
Colchicum autumnale Lin.
Meadow saffron; the root.

This plant grows wild in meadows, in the more temperate parts of Europe. The roots, freed from the outer blackish coat and fibres below, are white, and full of a white juice. In drying they become wrinkled and dark coloured. Applied to the skin, it shows some signs of acrimony; and taken internally, it is said sometimes to excite a sense of burning heat, bloody stools, and other violent symptoms. In the form of syrup, however, it has been given to the extent of two ounces a-day without any bad consequence. It is sometimes employed as a diuretic in dropsy.

From its great activity it was long ranked among the poisonous vegetables; but from this circumstance it claimed the attention of Dr Stoerk of Vienna, who made it the subject of many experiments. According to his account, the recent root taken in substance, even to a very small extent, produces alarming effects; but he found that an oxymel prepared from it might be used with safety, and proved a powerful diuretic. Since his publication it has been a good deal used by other practitioners; but it has by no means supported the character which he gave of it, even when employed in much larger doses than Dr Stoerk seems to have exhibited. On some occasions, however, it operates as a powerful diuretic; and accordingly it is not only

only introduced into moſt of the modern pharmacopœias, but is alſo the baſis of different formulæ. The London college, in imitation of the original preſcription of Dr Stoerk, have introduced into their pharmacopœia an oxymel colchici; but the Edinburgh college, from an objection to honey, which with ſome people is apt to excite violent colic pains, have ſubſtituted to this a ſyrupus colchici; in which, however, nearly the ſame proportions are retained, ſugar being merely employed in place of honey. This ſyrup, in place of two or three drams merely, has been given to the extent of two or three ounces in a day, in general without any inconvenience, and ſometimes with good effects: but like the other diuretics, it cannot be depended upon.

COLOCYNTHIS [*Lond. Ed.*] *Fructus medulla.*

Cucumis colocynthis Lin.

Coloquintida, or bitter apple; the medullary part of the fruit.

This is the produce of a plant of the gourd kind, growing in Turkey. The fruit is about the ſize of an orange; its medullary part, freed from the rind and ſeeds, is alone made uſe of in medicine: this is very light, white, ſpongy, compoſed of membranous leaves; of an extremely bitter, nauſeous, acrimonious taſte. Colocynth is one of the moſt powerful and moſt violent cathartics. Many eminent phyſicians condemn it as dangerous, and even deleterious: others recommend it not only as an efficacious purgative, but likewiſe as an alterative in obſtinate chronical diſorders. Thus much is certain, that colocynth, in the dóſe of a few grains, acts with great vehemence, diſorders the body, and ſometimes occaſions a diſcharge of blood. Many attempts have been made to correct its virulence by the addition of acids, aſtringents, and the like; theſe may leſſen the force of the colocynth, but no otherwiſe than might be equally done by a reduction of the doſe. The beſt method of abating its virulence, without diminiſhing its purgative virtue, ſeems to be by triturating it with gummy farinaceous ſubſtances, or the oily ſeeds, which, without making any alteration in the colocynth itſelf, prevent its reſinous particles from cohering, and ſticking upon the membranes of the inteſtines, ſo as to irritate, inflame, or corrode them. It is an ingredient in ſome of the purgative pills, and the cathartic extracts of the ſhops, particularly of the extractum colocynthidis compoſitum, and pilulæ ex colocynthide cum aloe.

COLOMBA [*Lond. Ed.*] *Radix.*

Colomba; the root.

The botanical characters of the vegetable from whence this root is obtained are not yet aſcertained. It is brought from Colombo in Ceylon in the form of knobs, having a rough ſurface, and conſiſting of a cortical, woody, and medullary lamina. It has a diſagreeably bitter taſte, an aromatic flavour; in experiment is conſiderably antiſeptic, and particularly effectual in correcting and preventing the putridity of bile. Abroad it is much uſed in diſeaſes attended with bilious ſymptoms, particularly in cholera; and is ſaid to be ſometimes very effectual in other caſes of vomiting. Some conſider it as very uſeful in dyſpepſia. Half a dram of the powder is given repeatedly in the day. Water is not ſo complete a menſtruum as ſpirits, but to their united action it yields a flavoured extract in very conſiderable quantity. Its uſe in medicine has been par-

particularly recommended to the attention of practitioners by Dr Percival of Manchester in his Experimental Essays; and it has in general been found to answer expectation: but it is to be regretted, that it is not so regularly imported as to admit of our shops being supplied with it of good quality. Hence when prescribed it is often exhibited in a very decayed state.

CONSOLIDA [*Suec.*] *Radix.*
Symphitum officinale Lin.
Comfrey; the root.

This is a rough hairy plant, growing wild by river-sides and in watery places. The roots are very large, black on the outside, white within, full of a viscid glutinous juice, of no particular taste. They agree in quality with the roots of althæa; with this difference, that the mucilage of *consolida* is somewhat stronger bodied. Many ridiculous histories of the *consolidating* virtues of this plant are related by authors. At present it is so little employed in practice in Britain, as to have no place in our pharmacopœias.

CONTRAYERVA [*Lond. Ed.*] *Radix.*
Dorstenia contrayerva Lin.
Contrayerva; the root.

This is a knotty root, an inch or two in length, about half an inch thick, of a reddish brown colour externally, and pale within: long, tough, slender fibres shoot out from all sides of it; these are generally loaded with small round knots. This root is of a peculiar kind of aromatic smell, and a somewhat astringent, warm, bitterish taste, with a light and sweetish kind of acrimony when long chewed: the fibres have little taste or smell; the tuberous part therefore should be alone chosen. Contrayerva is one of the mildest of those substances called alexipharmacs: it is indisputably a good and useful diaphoretic, and may be safely given in much larger doses than the common practice is accustomed to exhibit it in. Its virtues are extracted both by water and rectified spirit, and do not arise in evaporation with either: the spirituous tincture and extract taste stronger of the root than the aqueous ones.

CONVALLARIA [*Ed.*] *Radix.*
Convallaria polygonatum Lin.
Solomon's seal; the roots.

The root of this common plant contains a sweetish mucilage, and has been used in form of poultice in inflammations; but whether this or any other is better than the common poultice of bread and milk is doubtful. A decoction of this root in milk has also been mentioned in certain cases of hæmorrhagy. The flowers, berries, and leaves, are said to be poisonous.

COPAL [*Brun.*] *Resina.*
Rhus copallinum Lin.
Copal.

Copal, supposed by some a mineral substance, appears to be a resin obtained from several sorts of large trees growing in New Spain. This resin is brought to us in irregular lumps, some transparent, of a yellowish or brown colour, others semitransparent and whitish. It has never come into use as a medicine, and is rarely met with in the shops; but it is introduced into some of the foreign pharmacopœias, and may be considered as an article well deserving attention.

CORALLINA [*Brun.*]
Corallina officinalis Lin.
Coraline, or sea-moss.

This is a branched cretaceous substance

ſtance of a white colour, the habitation and production of polypi, growing on rocks, and ſometimes on the ſhells of fiſhes. It is celebrated as a vermifuge, on what foundation is very doubtful: to the taſte it is entirely inſipid, and probably operates only as an abſorbent earth.

CORRALLIUM RUBRUM [*Lond.*]
Iſis nobilis Lin.
Red coral.

This is alſo a marine production, of the ſame nature with the foregoing. It cannot reaſonably be looked upon in any other light than as a mere abſorbent; as ſuch it enters the officinal crabs-claw powder, and is ſometimes in practice directed by itſelf; but it is ſo little employed, and of ſo little activity, that the Edinburgh college have with juſtice rejected it from their liſt.

CORIANDRUM [*Lond. Ed.*]
Semen.
Coriandrum ſativum Lin.
Coriander; the ſeed.

Coriander is an umbelliferous plant, differing from all the others of that claſs in producing *ſpherical* ſeeds. Theſe, when freſh, have a ſtrong diſagreeable ſmell, which improves by drying, and becomes ſufficiently grateful; they are recommended as carminative and ſtomachic. They were formerly an ingredient in the officinal compound lime-water and electuary of bay-berries; but both theſe formulæ are now rejected.

CORNU CERVI [*Lond.*]
The ſtag or hart's horns.

Many extraordinary virtues have been attributed to theſe horns, and to all the parts of the animal in general: but experience gives no countenance to them; nor do they ſeem to have any other foundation than the great timidity of the hart, the annual renewal of his horns, and an opinion of his extraordinary longevity. From theſe circumſtances it was inferred, that all the parts of him muſt be proper for intimidating the enraged Archeus, renewing health and ſtrength, and prolonging life. They are to be conſidered as of the ſame nature with bnoes; and their products by heat are thoſe of animal ſubſtances in general. As ſuch they were at one time ſo much employed for yielding the volatile alkali, that they even gave a name to that article.

The horns boiled in water, give out an emollient nutritious gelly. Burnt to whiteneſs, they yield an earth, employed in the officinal white decoction, or as it is now more properly ſtyled, the *Decoctum cornu cervi.*

COTULA FOETIDA [*Brun.*]
Folia.
Anthemis cotula.
Mayweed, or wild chamomile.

This plant is common among corn, and in waſte places. In appearance it reſembles ſome of the garden-chamomiles, but is eaſily diſtinguiſhable from them by its ſtrong fetid ſcent. It is rarely or never uſed in the preſent practice.

CRETA [*Lond.*]
White chalk.

This is an earth ſoluble in vinegar and the lighter acids, ſo as to deſtroy every ſenſible mark of their acidity. This earth is one of the moſt uſeful of the abſorbents, and is to be looked upon ſimply as ſuch: the aſtringent virtues which ſome attribute to it, have no foundation, unleſs in ſo far as the earth is ſatiated with acid, with which it compoſes a ſaline concrete manifeſtly ſubaſtringent. It gives name to an officinal mixture, a powder, and

potion, and is an ingredient in the cardialgic troches. It is employed alſo for extricating the volatile ſalt of ſal ammoniac.

CROCUS [*Lond*] *Floris ſtigma.*

Crocus ſativus Lin.

Saffron; the chives.

Theſe chives, or fleſhy capillaments, growing at the end of the piſtil of the flower, are careſully picked and preſſed together into cakes.

There are three ſorts of ſaffron met with in the ſhops, two of which are brought from abroad, the other is the produce of our own country; this laſt is much ſuperior to the two former, from which it may be diſtinguiſhed by its blades being broader. When in perfection it is of a fiery orange red colour, and yields a deep yellowiſh tincture: it ſhould be choſen freſh, not above a year old, in cloſe cakes, neither dry, nor yet very moiſt, tough and firm in tearing, of the ſame colour within as without, and of a ſtrong, acrid, diffuſive ſmell.

Saffron is a very elegant and uſeful aromatic; beſides the virtues which it has in common with all the bodies of that claſs, it has been alleged that it remarkably exhilarates, raiſes the ſpirits, and is deſervedly accounted one of the higheſt cordials; taken in large doſes, it is ſaid to occaſion immoderate mirth, involuntary laughter, and the ill effects which follow from the abuſe of ſpirituous liquors. This medicine is ſaid to be particularly ſerviceable in hyſteric depreſſions, or obſtruction of the uterine ſecretions, where other aromatics, even thoſe of the more generous kind, have little effect. Saffron imparts the whole of its virtue and colour to rectified ſpirit, proof ſpirit, wine, vinegar, and water: a tincture drawn with vinegar, loſes greatly of its colour in keeping: the watery and vinous tinctures are apt to grow ſour, and then loſe their colour alſo: that made in pure ſpirit keeps in perfection for many years. Its officinal preparations are, a ſpiritnous tincture and ſyrup. It is an ingredient in the cordial confection paregoric elixir, and ſeveral of the aloetic compoſitions; but of late years, the eſtimation in which it was held as a medicine has been rather on the decline. Some experiments made by Dr Alexander ſerve to ſhow that it is much leſs powerful than was once imagined: and it was lately given in the Edinburgh Infirmary by Dr Henry Cullen, even to the extent of half an ounce a-day, in ſeveral hyſterical caſes, without any ſenſible effect whatever.

CUBEBA [*Lond. Ed.*]

Piper cubeba Lin.

Cubebs.

Cubebs are a fruit brought from the Eaſt Indies. This fruit has a great reſemblance to pepper. The principal difference diſtinguiſhable by the eye, is that each cubeb is furniſhed with a long ſlender ſtalk (whence they are called by ſome *piper caudatum.*) In aromatic warmth and pungency, cubebs are far inferior to pepper. They were formerly an ingredient in mithridate and theriaca; but they do not now enter any of the fixed formulæ of our pharmacopœias.

CUCUMIS HORTENSIS *Semen.*

Cucumis ſativus Lin.

Garden cucumbers; the ſeeds.

Theſe are in the number of the four greater cold ſeeds; they are leſs apt to grow rancid in keeping than the others of that claſs.

CUCUMIS AGRESTIS [*L.*]
Fructus recens.
Momordica elaterium Lin.
Wild cucumber; the fruit.

This plant, found wild in foreign countries, is with us cultivated in gardens. Its principal botanic difference from the former, is the smallness of its fruit, which is no bigger than a Spanish olive: when ripe, it bursts on a little touch, and sheds its seeds with violence, and hence was named by the Greeks *elaterium.* This name is applied likewise to the fecule of the juice of the fruit, the only preparation of the plant made use of in medicine. The juice, on standing, separates into the fecule, which falls to the bottom, and a watery fluid which swims above. The clear part may be decanted off, and the rest of the liquid drained off by cotton threads hung over the sides of the vessel acting like syphons. The fecule may be farther dried by the sun, or a slow heat; and in this dry state it has the name of *elaterium.* Elaterium is a strong cathartic, and very often operates also upwards. Two or three grains are accounted in most cases a large dose. Simon Pauli relates some instances of the good effects of this purgative in dropsies; but cautions practitioners not to have recourse to it till after milder medicines have proved ineffectual; to which caution we heartily subscribe. Medicines indeed in general, which act with violence in a small dose, require the utmost skill to manage them with any tolerable degree of safety: to which may be added, that the various manners of making these kinds of preparations, as practised by different hands, must needs vary their power. But of late, the elaterium has been not unfrequently employed in obstinate cases of dropsy with success; and when exhibited in doses of only half a grain, repeated at short intervals till its operation commences, it is in general sufficiently moderate in its effects.

CUCURBITA [*Succ.*] *Semen.*
Cucurbita lagenaria Lin.
The gourd; the seeds.

These are in the number of the four greater cold seeds. They unite with water by trituration into an emulsion, and yield to the press a soft insipid oil, and possess the general virtues of unctuous substances.

CUMINUM [*Lond. Ed.*] *Semen.*
Cuminum cyminum Lin.
Cummin; the seed.

The cummin is an umbelliferous plant, in appearance resembling fennel, but much smaller. The seeds used in Britain are brought chiefly from Sicily and Malta. Cummin seeds have a bitterish warm taste, accompanied with an aromatic flavour, not of the most agreeable kind. An essential oil is obtained from them by distillation, in which their activity is concentrated; and they are not unfrequently used externally, giving name both to a plaster and cataplasm.

CUPRUM [*Lond.*]
Cuprum nativum Lin.
Copper.

Copper is one of the metals often used for different purposes in arts; found both in Britain, and in most other countries of Europe. It has never been used as a medicine in its proper metallic form; but it is readily acted upon by all saline substances, both by acids, alkalies, and neutrals; and it is even corroded by moisture.

Most of these preparations of copper are violently emetic, and therefore very rarely exhibited internally. Some have ventured upon

a ſolution of a grain or two of the metal in vegetable acids, and obſerve, that it acts almoſt as ſoon as received into the ſtomach, ſo as to be of great uſe for occaſioning poiſonous ſubſtances that have been ſwallowed, to be immediately thrown up again. Boerhaave recommends a ſaturated ſolution of this metal in volatile alkaline ſpirits, as a medicine of great ſervice in diſorders proceeding from an acid, weak, cold, phlegmatic cauſe: if three drops of this tincture be taken every morning with a glaſs of mead, and the doſe doubled every day to twenty-four drops, it proves, he ſays, aperient, attenuating, warming, and diuretic: he aſſures us, that by this means he cured a confirmed aſcites, and that the urine run out as from an open pipe; but at the ſame time he acknowledges, that upon trying the ſame medicine on others, it failed him. He likewiſe recommends other preparations of copper, as of wonderful efficacy in certain kinds of ill habits, weakneſs of the ſtomach, &c. but we cannot think the internal uſe of this metal adviſable in ordinary caſes, which can be combated by other means. Phyſicians in general ſeem to be agreed, that it has really a virulent quality; and too many examples are met with of fatal conſequences enſuing upon eating food which had been dreſt in copper veſſels not well cleaned from the ruſt which they had contracted by lying in the air.

Great care ought to be taken that acid liquors, or even water, deſigned for internal uſe, be not ſuffered to ſtand long in veſſels made of copper; otherwiſe they will diſſolve ſo much of the metal as will give them diſagreeable qualities. Hence in the diſtillation of ſimple waters with copper ſtills, the laſt runnings, which are manifeſtly acid, have frequently proved emetic. It is remarkable, that whilſt weak acid liquors are kept boiling in copper veſſels, they do not ſeem to diſſolve any of the metal; but if ſuffered to remain in them for the ſame length of time without boiling, they become notably impregnated with the copper. Hence the confectioners, by ſkilful management, prepare the moſt acid ſyrups in copper veſſels, without giving them any ill taſte from the metal. But although copper be thus dangerous, ſome preparations of it are in certain caſes uſed with great advantage both externally and internally.

The chief preparations of copper are, the blue vitriol, verdegris, and cuprum ammoniacum; but the London college have given a place only to the two former. The blue vitriol is recommended by ſome as an uſeful emetic, particularly in caſes of incipient phthiſis with a view of reſolving tubercles. It is ſometimes employed as an aſtringent and eſcharotic; and verdegris is uſed in form of ointment in certain ulcerations, in caſes of tinea capitis and the like. Of the cuprum ammoniacum, which although it has no place in the pharmacopœia of the London college, we conſider to be a very active and powerful medicine, we ſhall afterwards treat, under the head of *Preparations*, in the third part of this work: here we may only obſerve, that it has produced a perfect cure in ſome inſtances of epilepſy.

CURCUMA [*Lond. Ed.*] *Radix.*

Curcuma longa Lin.

Turmeric; the root.

Turmeric is a root brought from the Eaſt Indies, where it is uſed not only in medicine, but for colouring and ſeaſoning food, as rice. It is internally of a deep lively yellow or ſaffron colour, which it readily imparts to watery liquors. It has an

an agreeable, weak ſmell, and a bitteriſh ſomewhat warm taſte. Turmeric is eſteemed aperient and emmenagogue, and of ſingular efficacy in the jaundice. It tinges the urine of a ſaffron colour.

CURSUTA [*Ed.*] *Radix.*
Gentiana purpurea Lin.
Curſuta; the root.

The foreign root ſold under this name was introduced into the laſt edition of the Edinburgh pharmacopœia, but perhaps without ſufficient grounds; and accordingly it has not found a place in the liſt of any other college. It is now believed, that what has had the name of curſuta, is the root of the purple gentian: but what is uſually ſold under that title in our ſhops cannot, either by its appearance, taſte, or other ſenſible qualities, be diſtinguiſhed from the common gentian, the root of the gentiana lutea, afterwards to be mentioned. And as far as the medical properties of the curſuta have been aſcertained, they are preciſely the ſame with thoſe of gentian.

This foreign root has a very bitter taſte, and is uſed by ſome in dyſpepſia.

CYANUS [*Brun.*] *Flores.*
Centaurea cyanus Lin.
Bluebottle; the flowers.

This is a common weed among corn. The flowers are of an elegant blue colour, which, if carefully and haſtily dried, they retain for a conſiderable time. As to their virtues, the preſent practice expects not any from them; notwithſtanding they have been formerly celebrated againſt the bites of poiſonous animals, contagious diſeaſes, palpitations of the heart, and many other diſtempers.

CYDONIUM MALUM [*Lond. Ed.*] *Fructus, ſemen.*
Pyrus cydonia Lin.
The quince; its fruit and ſeeds.

Quinces have a very auſtere acid taſte: taken in ſmall quantity, they are ſuppoſed to reſtrain vomiting and alvine fluxes; and more liberally to looſen the belly. The ſeeds abound with a mucilaginous ſubſtance of no particular taſte, which they readily impart to watery liquors: an ounce will render three pints of water thick and ropy like the white of an egg. A mucilage of the ſeeds is kept in the ſhops. A ſyrup of the fruit had formerly a place, but it is now rejected.

CYNOGLOSSUS [*Brun.*] *Radix.*
Cynogloſſus officinalis Lin.
Houndſtongue; the root;

The leaves of this plant are in ſhape thought to reſemble a tongue, whence its name; they are clothed with a whitiſh down: it grows wild in ſhady lanes. The roots have a rank diſagreeable ſmell, and rough bitteriſh taſte, covered with a glutinous ſweetneſs. The virtues of this root are very doubtful: it is generally ſuppoſed to be narcotic, and by ſome to be virulently ſo: others declare, that it has no virtue of this kind, and look upon it as a mere glutinous aſtringent. The preſent practice takes no notice of it with any intention.

CYNOSBATUS [*Lond.*] *Fructus.*
Roſa canina Lin.
Dog-roſe; the fruit called hips.

This buſh grows wild in hedges throughout England. The flowers have a pleaſant ſmell; but ſo weak, that Parkinſon and others have named the plant *Roſa ſylveſtris inodora:* a water diſtilled from them ſmells agreeably. The fruit or hips contain a ſouriſh ſweetiſh pulp; with a rough prickly matter incloſing the

ſeeds, from which the pulp ought to be carefully ſeparated before it be taken internally: the Wirtemberg college obſerves, that from a neglect of this caution, the pulp of hips ſometimes occaſions a pruritus and uneaſineſs about the anus; and the conſerve of it has been known to excite violent vomiting. The conſerve is the only officinal preparation of this fruit. And as it is not ſuppoſed to poſſeſs any particular medical virtue, but is merely uſed to give form to other articles, the Edinburgh college have perhaps, without any material diſadvantage, entirely omitted it.

CYPERUS [*Brun.*] *Radix.*
Cyperus longus Lin.
Cyperus; the root.

This is a plant of the graminifolious kind; it is ſometimes found wild, in marſhy places in England; the roots have been generally brought to us from Italy. This root is long, ſlender, crooked, and full of knots; outwardly of a dark brown, or blackiſh colour, inwardly whitiſh; of an aromatic ſmell, and an agreeable warm taſte: both the taſte and ſmell are improved by moderate exſiccation. Cyperus is accounted a good ſtomachic and carminative, but at preſent very little regarded.

DACTYLUS [*Brun.*] *Fructus.*
Phœnix dactylifera Lin.
The date; the fruit.

Dates are imported into Britain in the ſtate of a half dried fruit, about the ſhape of an acorn, but generally larger, conſiſting of a ſweet pulpy part and a hard ſtone: the beſt are brought from Tunis. They were formerly uſed in pectoral decoctions; and ſuppoſed, beſides their emollient and incraſſating virtue, to have a ſlight aſtringency.

DAUCIS CRETICUS [*Brun.*] *ſemen.*
Athamanta Cretenſis Lin.
Candy carrot; the ſeeds.

This is an umbelliferous plant, growing wild in the Levant and the warmer parts of Europe. The ſeeds, which are brought from Crete, have a warm biting taſte, and not a diſagreeable aromatic ſmell. They are carminative, and ſaid to be diuretic, but at preſent little uſed.

DAUCUS SYLVESTRIS [*Lond. Ed.*]
Daucus carota Lin.
Wild carrot; the ſeed.

This is common in paſture grounds and fallow fields throughout England. The ſeeds poſſeſs the virtues of thoſe of the *daucus creticus*, in an inferior degree; and have often ſupplied their place in the ſhops; and been themſelves ſupplied by the ſeeds of the garden carrot: theſe laſt are in warmth and flavour the weakeſt of the three: the ſeeds of the candy carrot are much the ſtrongeſt.

DENS LEONIS, vide TARAXACUM.

DICTAMNUS ALBUS [*Ed.*] *Radix.*
Dictamnus albus Lin.
White or baſtard dittany; the root

This plant grows wild in the mountainous parts of France, Italy, and Germany. From thence the cortical part of the root, in a dry ſtate, rolled up in little quills, is ſometimes brought to us. It is of a white colour, of a weak not very agreeable ſmell, and of a durable bitter lightly pungent taſte. It has been recommended as an alexipharmac, a tonic, and an anthelmintic; but it is very ſeldom uſed, and has

no

no place in the London pharmacopœia.

DICTAMNUS CRETICUS [*Suec.*] *Folia.*

Origanum dictamnus Lin.

Dittany of Crete; the leaves.

This is a kind of origanum said to grow plentifully in the island of Candy, in Dalmatia, and in the Morea: it has been found hardy enough to bear the ordinary winters of our own climate. The leaves, which are the only part in use with us, come from Italy. The best sort are well covered over with a thick white down, and now and then intermixed with purplish flowers. In smell and taste, they somewhat resemble lemon thyme; but have more of an aromatic flavour, as well as a greater degree of pungency; when fresh, they yield a considerable quantity of an excellent essential oil. But they have now no place either in the London or Edinburgh pharmacopœias.

DIGITALIS [*Lond. Ed.*] *Herba.*

Digitalis purpurea Lin.

Fox glove; the plant.

This grows wild in woods, and on uncultivated heaths: the elegant appearance of its purple flowers (which hang in spikes along one side of the stalk) has gained it a place in some of our gardens. The leaves have been strongly recommended, externally, against scrophulous tumours; and likewise internally, in epileptic disorders: what service they may be capable of doing in these cases is not ascertained by accurate experiment. Several examples are mentioned by medical writers of their occasioning violent vomiting, hypercatharsis, and disordering the whole constitution; insomuch that Boerhaave accounts them poisonous. Their taste is bitter and very nauseous.

Digitalis, however, has lately been employed with great success in other diseases. A treatise has lately been published by Dr Withering, professedly on the subject of its use in medicine; and containing many important and useful observations.

An infusion of two drams of the leaf in a pint of water, given in half-ounce doses every two hours or so, till it begin to puke or purge, is recommended in dropsy, particularly that of the breast. It is said to have produced an evacuation of water so copious and sudden, in ascites, by stool and urine, that the compression of bandages was found necessary. The plentiful use of diluents is ordered during its operation. The remedy, however, is inadmissible in very weakly patients. But besides being given in infusion, it has also been employed in substance. And when taken at bed-time to the extent of one, two, or three, grains of the dried powder, it often in a short time operates as a very powerful diuretic, without producing any other evacuation. Even this quantity, however, will sometimes excite very severe vomiting, and that too occurring unexpectedly. During its operation it has often very remarkable influence in rendering the pulse slower; and it frequently excites very considerable vertigo, and an affection of vision.

Besides dropsy, the digitalis has of late also been employed in some instances of hæmoptysis, of phthisis, and of mania, with apparent good effects. But its use in these diseases is much less common than in dropsy.

DOLICHOS [*Ed.*] *Pubes leguminis rigida.*

Dolichos pruriens Lin.

Cowhage; the rigid down of the pod.

The dolichos is a plant growing in great abundance in warm climates, particularly in the Weſt India iſlands; and there it is very troubleſome to cattle and other domeſtic animals. For on account of the ſpiculæ of the ſeed-bag, it excites, when touched, a very uneaſy itching. Theſe ſpiculæ have been long uſed in South America, in caſes of worms; and have of late been frequently employed in Britain The ſpiculæ of one pod mixed with ſyrup or molaſſes, and taken in the morning faſting, is a doſe for an adult. The worms are ſaid to appear with the ſecond or third doſe; and by means of a purge in ſome caſes the ſtools are ſaid to have conſiſted almoſt entirely of worms; and in caſes of lumbrici, it is ſaid to produce a ſafe and effectual cure. Thoſe who have uſed it moſt, particularly Dr Bancroft and Dr Cochrane, affirm that they have never ſeen any inconvenience reſulting from the internal uſe of it, notwithſtanding the great uneaſineſs it occaſions on the ſlighteſt touch to any part of the ſurface.

DORONICUM GERMANICUM, vide ARNICA.

DULCAMARA [*Ed.*] *Stipites.*

Solanum dulcamara Lin.

Bitter-ſweet, or woody night-ſhade; the ſtalks.

This plant grows wild in moiſt hedges, and climbs on the buſhes with woody brittle ſtalks. The taſte of the twigs and roots, as the name of the plant expreſſes, is both bitter and ſweet; the bitterneſs being firſt perceived, and the ſweetneſs afterwards. The dulcamara was formerly much eſteemed as a powerful medicine. It is in general ſaid to occaſion ſome conſiderable evacuation by ſweat, urine, or ſtool, particularly the latter. It has been recommended as a diſcutient and reſolvent medicine; and it has been ſaid to be attended with good effects in obſtinate cutaneous diſeaſes of the herpetic kind. It has alſo been uſed, and ſometimes with advantage, in caſes of rheumatiſm, jaundice, and obſtructed menſtruation. It has principally been employed under the form of watery infuſion, ſometimes under that of extract.

EBULUS [*Suec.*] *Radix, folia baccæ.*

Sambucus ebulus Lin.

Dwarf elder; the root, leaves, and berries.

This plant grows wild in ſome counties of England; but about London is rarely met with, unleſs in gardens: the eye diſtinguiſhes little difference between it and the elder tree except in the ſize; the elder being a pretty large tree, and the dwarf elder only an herb three or four feet high. The leaves, roots, and bark of *ebulus* have a nauſeous, ſharp, bitter taſte, and a kind of acrid ungrateful ſmell: they are all ſtrong cathartics, and as ſuch are recommended in dropſies, and other caſes where medicines of that kind are indicated. The bark of the root is ſaid to be ſtrongeſt; the leaves the weakeſt. But they are all too draſtic medicines for general uſe: they ſometimes evacuate violently upwards, almoſt always nauſeate the ſtomach, and occaſion great uneaſineſs of the bowels. By boiling, they become like the other draſtics milder, and more ſafe in operation. Fernelius relates, that by long coction they entirely loſe their purgative virtue. The berries of this plant are likewiſe purgative, but leſs virulent than the other parts. A rob prepared from them may be given

ven to the quantity of an ounce as a cathartic; and in ſmaller ones as an aperient and deobſtruent in chronic diſorders: with this laſt intention, it is ſaid by Haller to be frequently uſed in Swiſſerland, in the doſe of a dram.

ELATERIUM, vide CUCUMIS AGRESTIS.

ELEMI [*Lond.*] *Reſina.*
Amyris elemifera Lin.
Gum elemi.

This is a reſin brought from the Spaniſh Weſt Indies, and ſometimes from the Eaſt Indies, in long roundiſh cakes, generally wrapped up in flag leaves. The beſt ſort is ſoftiſh, ſomewhat tranſparent, of a pale whitiſh yellow colour, inclining a little to green, of a ſtrong not unpleaſant ſmell. It almoſt totally diſſolves in pure ſpirit, and ſends over ſome part of its fragrance along with this menſtruum in diſtillation: diſtilled with water, it yields a conſiderable quantity of pale coloured, thin, fragrant eſſential oil. This reſin gives name to one of the officinal unguents, and is at preſent ſcarce any otherwiſe made uſe of; though it is certainly preferable for internal purpoſes to ſome others which are held in greater eſteem.

ELEUTHERIA, vide CASCARILLA.

ENDIVIA [*Brun.*] *Semen.*
Cichoreum endivia Lin.
Endive; the ſeed.

Endive is raiſed in gardens for culinary uſe. It is a gentle cooler and aperient, nearly of the ſame quality with the *cichorium.* The ſeeds are ranked among the four leſſer cold ſeeds.

ENULA CAMPANA [*Lond.*] *Radix.*
Inula Helenium Lin.
Elecampane; the root.

This is a very large downy plant, ſometimes found wild in moiſt rich ſoils. The root, eſpecially when dry, has an agreeable aromatic ſmell: its taſte, on firſt chewing, is glutinous, and as it were ſomewhat rancid; in a little time it diſcovers an aromatic bitterneſs, which by degrees becomes conſiderably acrid and pungent. Elecampane root poſſeſſes the general virtues of alexipharmacs: it is principally recommended for promoting expectoration in humoral aſthmas and coughs: liberally taken, it is ſaid to excite urine, and looſen the belly. In ſome parts of Germany, large quantities of this root are candied, and uſed as a ſtomachic, for ſtrengthening the tone of the viſcera in general, and for attenuating tenacious juices. Spirituous liquors extract its virtues in greater perfection than watery ones: the former ſcarce elevate any thing in diſtillation; with the latter an eſſential oil ariſes, which concretes into white flakes: this poſſeſſes at firſt the flavour of the elecampane, but is very apt to loſe it in keeping. An extract made with water poſſeſſes the bitterneſs and pungency of the root, but in a leſs degree than one made with ſpirit.

ERUCA [*Brun.*] *Semen.*
Braſſica eruca Lin.
Rocket; the ſeeds.

This was formerly much cultivated in gardens for medicinal uſe, and for ſalads; but is at preſent leſs common. In appearance, it reſembles muſtard; but is eaſily diſtinguiſhable by the ſmoothneſs of its leaves, and its diſagreeable ſmell. The ſeeds have a pungent taſte, of the muſtard kind, but weaker: they have

have long been celebrated as aphrodisiacs; and may, probably, have in some cases a title to this virtue, in common with other acrid plants.

ERYNGUM [*Lond.*] *Radix.*
Eryngum maritimum Lin.
Eryngo; the root.

This plant grows plentifully on some of our sandy and gravelly shores: the roots are slender, and very long; of a pleasant sweetish taste, which, on chewing them for some time, is followed by a light degree of aromatic warmth and acrimony. They are accounted aperient and diuretic, and have also been celebrated as aphrodisiac; their virtues, however, are too weak to admit them under the head of medicines.

ERYSIMUM [*Ros.*] *Herba recens.*
Erysimum officinale Lin.
Hedge-mustard; the recent plant.

This is a low hairy plant, common in waste places and by way-sides. The seeds are said to promote expectoration, excite urine and the other fluid secretions, and to attenuate and dissolve viscid juices, &c. This they are supposed to perform by an acrimonious stimulating quality; but the taste discovers in them only an herbaceous softness void of acrimony: the seeds indeed are considerably pungent, and the roots in some small degree.

EUPATORIUM [*Brun.*] *Herba.*
Eupatorium cannabinum Lin.
Hemp agrimony; the plant.

This plant is found wild by the sides of rivers and ditches. It has an acrid smell, and a very bitter taste, with a considerable share of pungency. The leaves are much recommended for strengthening the tone of the viscera, and as an aperient; and said to have excellent effects in the dropsy, jaundice, cachexies, and scorbutic disorders. Boerhaave informs us, that this is the common medicine of the turf-diggers in Holland, against scurvies, foul ulcers, and swellings in the feet, to which they are subject. The root of this plant is said to operate as a strong cathartic: but it is hardly used in Britain, and has no place in our pharmacopœias.

EUPHORBIUM [*Suec.*] *Gummi resina.*
Euphorbia officinarum Lin.
Euphorbium.

This gummi-resinous substance is a spontaneous exudation from a large oriental tree. It is brought to us immediately from Barbary, in drops of an irregular form; some of which, upon being broken, are found to contain little thorns, small twigs, flowers, and other vegetable matters; others are hollow, without any thing in their cavity: the tears in general are of a pale yellow colour externally, somewhat white withinside: they easily break between the fingers. Lightly applied to the tongue, they affect it with a very sharp biting taste; and upon being held for some time in the mouth, prove vehemently acrimonious, inflaming and exulcerating the fauces, &c. Euphorbium is extremely troublesome to pulverise; the finer part of the powder, which flies off, affecting the head in a violent manner. The acrimony of this substance is so great as to render it absolutely unfit for any internal use: several correctors have been contrived to abate its virulence; but the best of them are not to be trusted to: and as there seems to be no real occasion for it, unless for some external purposes, we think, with Hoffman and others, that it ought to be expunged

punged from the catalogue of internal medicines. And accordingly it has now no place in the London or Edinburgh pharmacopœias. But it is still retained in most of the foreign ones, and is sometimes used as a sternutatory.

EUPHRASIA [*Brun.*] *Folia.*
Euphrasia officinarum Lin.
Eye bright; the leaves.

This is a very low plant, growing wild in moist fields. It was formerly celebrated as an ophthalmic, both taken internally and applied externally. Hildanus says, he has known old men of seventy, who had lost their sight, recover it again by the use of this herb: later practitioners, however, have not been so happy as to observe any such good effects from it. At present it is totally, and not unjustly, disregarded.

FABA [*Ross.*] *Semen.*
Vicia faba Lin.
Beans; the seed.

Beans are of greater use for culinary than medicinal purposes; they are a strong flatulent food, sufficiently nutritious, but not easy of digestion, especially when growing old. A water distilled from the flowers has been celebrated as a cosmetic, and still retains its character among some female artists.

FERRUM *et* CHALYBS [*Lond.*]

Iron and steel. Iron, cemented with animal or vegetable coal, forms steel.

Steel is accounted less proper for medicinal use than the softer iron, as being more difficultly acted upon by the animal-juices and the common menstrua: iron dissolves readily in all acids, and rusts freely in the air, especially if occasionally moistened with water; steel requires a longer time for its solution, and does not rust so easily.

The general virtues of these metals, and the several preparations of them, are, to constringe the fibres, to quicken the circulation, to promote the deficient secretions in the remoter parts, and at the same time repress inordinate discharges into the intestinal tube. After the use of them, if they take effect, the pulse is very sensibly raised; the colour of the face, though before pale, changes to a florid red; the alvine, urinary, and cuticular excretions, are increased. Nidorous eructations, and the fæces voided of a black colour, are marks of their taking due effect.

An aperient virtue is usually attributed to some of the preparations of iron, and an astringent to others; but in reality, they all produce the effects both of aperients and astringents, and seem to differ only in degree. Those distinguished by the name of astringent sometimes occasion a very copious discharge of urine, or a diarrhœa; whilst those called aperient frequently stop these evacuations.

Where either a preternatural discharge, or suppression of natural secretions, proceed from a languor and sluggishness of the fluids, and weakness of the solids; this metal, by increasing the motion of the former, and the strength of the latter, will suppress the flux, or remove the suppression: but where the circulation is already too quick, the solids too tense and rigid, where there is any stricture or spasmodic contraction of the vessels; iron, and all the preparations of it, will aggravate equally both distempers.

Though the different preparations of iron act all in the same manner, yet they are not equally proper in all constitutions. Where acidities abound in the first passages, the

the crude filings, reduced into a fine powder, prove more ſerviceable than the moſt elaborate preparation of them. On the other hand, where there is no acid in the primæ viæ, the metal requires to be previouſly opened by ſaline menſtrua: hence a ſolution of iron in acid liquors has in many caſes excellent effects, where, as Boerhaave obſerves, the more indigeſtible preparations, as the calces made by fire, have ſcarce any effect at all. If alkaleſcent juices be lodged in the ſtomach, this metal, though given in a liquid form, proves at leaſt uſeleſs; for here the acid ſolvent is abſorbed by the alkaline matters which it meets with in the body, ſo as to leave the iron reduced to an inactive calx.

Chalybeate medicines are likewiſe ſuppoſed to differ, independently of differences in the conſtitution, according to the nature of the acid united with the metal: vegetable acids ſuperadd a detergency and aperient virtue; combined with the vitriolic, it acts in the firſt paſſages powerfully as an aperient; whilſt the nitrous renders it extremely ſtyptic, and the marine ſtill more ſo. The different preparations of iron will be afterwards more particularly mentioned.

Iron is the only metal which ſeems naturally friendly to the animal body.

Its chief preparations are the prepared filings and ruſt, the tincture, the ſalt, and the martial flowers, or ferrum ammoniacale; and theſe are uſed principally in caſes of weakneſs and relaxation, whether attended with morbid diſcharges or morbid ſuppreſſions.

FILIPENDULA [*Brun.*] *Radix.*

Spirea filipendula Lin.

Dropwort; the root.

This plant grows wild in fields and chalky grounds: the root conſiſts of a number of tubercles, faſtened together by ſlender ſtrings; its taſte is rough and bitteriſh, with a ſlight degree of pungency. Theſe qualities point out its uſe in a flaccid ſtate of the veſſels, and a ſluggiſhneſs of the juices: the natural evacuations are in ſome meaſure reſtrained or promoted by it, where the exceſs or deficiency proceed from this cauſe. Hence ſome have recommended it as an aſtringent in dyſenteries, immoderate uterine fluors, &c. others as a diuretic; and others as an aperient and deobſtruent in ſcrophulous habits. At preſent it is wholly diſregarded.

FILIX [*Lond. Ed.*] *Radix.*

Polypodium filix mas.

Common male fern; the root.

Several ſpecies of the fern root had formerly a place in the materia medica; and the preſent article ſeems to have been employed at leaſt as early as the days of Dioſcorides, for the purpoſe for which it is now uſed in medicine. But it is ſaid to have been entirely neglected, till ſome years ago a remedy employed by Madame Noufer of Switzerland for the cure of the tænia, claimed the attention of the practitioners of France. Her ſecret, after being tried at Paris under the direction of ſome of the moſt eminent phyſicians, was purchaſed by the French King, and publiſhed by his order. Since that, the filix mas has been introduced into the pharmacopœias both of the London and Edinburgh colleges.

The filix mas is a vegetable growing in great abundance in almoſt every part of Britain where the ground is not cultivated. The greateſt part of the root lies horizontally, and has a great number of appendages placed cloſe to each other in a vertical direction, while a number of

of ſmall fibres ſtrike downwards. The large root, together with its appendages, are to be reſerved for uſe. The two ends, however, are to be cut off, the one being too old and ſpongy, the other too new and green.

This root, under the form of powder, is found to prove a very effectual cure for the tænia lata or tape-worm. It ſometimes alſo, although not with equal certainty, ſucceeds in the removal of the tænia cucurbitina or gourd worm.

Two or three drams of the powder are taken in the morning, no ſupper having been taken the night before. It generally ſickens a little. A briſk cathartic with calomel is given a few hours after, which ſometimes brings off the tænia entire; if not, the ſame courſe muſt be followed at due intervals.

For the ſucceſs of this remedy, it is proper that the root ſhould be recently gathered; for after being long kept in the ſhops, its activity is much diminiſhed. And we are of opinion, that it ſhould be uſed recently dug, being brought to a ſtate fit for reduction to powder by drying it by the aid of fire.

FLAMULA JOVIS [*Ed.*] *Folia, flores.*

Clematis recta Lin.

Upright virgin's bower; the leaves and flowers.

This article is introduced into but few of the modern pharmacopœias, and has never been much employed in Britain. As well as many other active articles, ſuppoſed to be of a poiſonous nature, it was ſome time ago recommended to the attention of practitioners by Dr Stoerk of Vienna.

Its leaves and flowers are ſo acrid as to bliſter. Dr Stoerk recommends it in venereal, cancerous, and other cutaneous affections, in thoſe headachs, pains of the bones, and waſtings of the habit, the conſequences of lues venerea. Externally the acrid powder is ſprinkled on the ulcers, and the forms for internal uſe are thoſe of infuſion and extract.

FŒNICULUM DULCE [*Lon. Ed.*] *Semen.*

Anethum fœniculum Lin.

Sweet fennel; the ſeeds.

FŒNICULUM VULGARE [*Ed.*] *Radix.*

Anethum fœniculum varietas β.

Common fennel; the roots.

The ſweet fennel is ſmaller in all its parts than the common, except the ſeeds, which are conſiderably larger. The ſeeds of the two ſorts differ likewiſe in ſhape and colour: thoſe of the common are roundiſh, oblong, flattiſh on one ſide, and protuberant on the other, of a dark almoſt blackiſh colour; thoſe of the ſweet are longer, narrower, not ſo flat, generally crooked, and of a whitiſh or pale yellowiſh colour. Both ſorts are cultivated in our gardens: the common is a perennial plant: the ſweet fennel periſhes after it has given ſeed; nor do its ſeeds come to ſuch perfection in this climate as thoſe which we receive from Germany.

The ſeeds of both the fennels have an aromatic ſmell, and a moderately warm, pungent taſte: thoſe of the *fœniculum dulce* are in flavour moſt agreeable, and have alſo a conſiderable degree of ſweetneſs; hence our colleges have directed the uſe of theſe only. They are ranked among the four greater hot ſeeds, and not undeſervedly looked upon as good ſtomachics and carminatives. A ſimple water is prepared from them in the ſhops; they are ingredients alſo in the compound ſpirit of juniper, and ſome other officinal compoſitions.

The

The root is far less warm, but has more of a sweetish taste, than the seeds: it is one of the five roots called openers; and has sometimes been directed in aperient apozems. Boerhaave says, that this root agrees in taste, smell, and medical qualities, with the celebrated *ginseng* of the Chinese; from which, however, it appears to be very considerably different.

The leaves of fennel are weaker than either the roots or seeds, and have very rarely been employed for any medicinal use.

FŒNUM GRÆCUM [*Lond. Ed.*] *Semen.*

Trigonella fœnum græcum Lin.

Fenugreek; the seed.

This plant is cultivated chiefly in the southern parts of France, Germany, and Italy; from whence the seeds are brought to us. They are of a yellow colour, a rhomboidal figure; a disagreeable strong smell, and a mucilaginous taste. Their principal use is in cataplasms, fomentations, and the like, and in emollient glysters. They entered the *oleum e mucilaginibus* of the shops; to which they communicate a considerable share of their smell. But this formula is now rejected.

FORMICÆ CUM ACERVO [*Suec.*]

Formica rufa Lin.

Ants; their bodies and eggs.

These insects are at present not employed by us in medicine, though formerly much celebrated for aphrodisiac virtues. They enter the *aqua magnanimitatis*, and other like compositions of foreign dispensatories. It is remarkable, that these animals contain a truly acid juice, which they shed in small drops upon being irritated; by infusing a quantity of live and vigorous ants in water, an acid liquor is obtained nearly as strong as good vinegar. Neumann observes, that on distilling them either with water or pure spirit, a clear limpid oil arises, which has scarce any taste, or at least is not hot or pungent like the essential oils of vegetables.

In some of the foreign pharmacopœias, they are the basis of an *oleum formicarum*, a *spiritus formicarum*, and a *spiritus formicarum acidus*; from which it may be presumed, that they are pretty frequently employed.

FRAGARIA [*Suec.*] *Fructus recens, folia.*

Fragaria vesca Lin.

Strawberry bush; its leaves and fruit.

The leaves are somewhat styptic and bitterish; and hence may be of service in debility and laxity of the viscera; and immoderate secretions, or a suppression of the natural evacuations, depending thereon: they are recommended in hæmorrhagies and fluxes; and likewise as aperients, in suppressions of urine, obstructions of the viscera, in the jaundice, &c. The fruit is in general very grateful both to the palate and stomach: like other fruits of the dulco-acid kind, they abate heat, quench thirst, loosen the belly, and promote urine; but do not afford much nourishment. Geoffroy observes, that the urine of those who eat liberally of this fruit, becomes impregnated with its fragrant smell.

FRAXINELLA, vide DICTAMNUS ALBUS.

FRAXINUS [*Suec.*] *Cortex et semen.*

Fraxinus excelsior Lin.

The ash-tree; its bark and seeds.

The bark of this tree is moderately astringent, and as such has sometimes been made use of. It has also

alſo been propoſed as a ſubſtitute for the Peruvian bark in the cure of intermittents; but its efficacy is not confirmed by experience. The ſeeds, which are ſomewhat acrid, have been employed as aperients. There are ſo many other medicines more agreeable, and more efficacious for theſe intentions, that all the parts of the aſh tree have long been neglected.

FULIGO LIGNI. [*Ed.*]
Wood ſoot.

This concrete is of a ſhining black colour, a diſagreeable ſmell, and an acrid, bitter, nauſeous taſte. Its chief uſe is in hyſteric and other nervous caſes, in which it is ſometimes given in conjunction with the fetid gums: it gives name to a tincture of this kind in the ſhops. But the efficacy of that article probably depends much more on the aſafœtida it contains, than on the ſoot from whence it derives its name. Its virtues are extracted both by watery and ſpiritnous liquors; each of which, if the ſoot be of a good kind, diſſolve about one ſixth. Soot is ſaid to differ greatly in quality according to the wood from which it was produced: the more reſinous the wood, the more the ſoot abounds with bitter oily matter. On chemical analyſis, it yields volatile and fixed alkali, empyreumatic oil, and earth.

FUMARIA [*Ed.*] *Folia.*
Fumaria officinalis Lin.
Fumitory; the leaves.

This is a common weed in ſhady cultivated grounds, producing ſpikes of purpliſh flowers in May and June. It is very juicy, of a bitter taſte, without any remarkable ſmell. The medical effects of this herb are, to ſtrengthen the tone of the bowels, gently looſen the belly, and promote the urinary and other natural ſecretions. It is principally recommended in melancholic, ſcorbutic, and cutaneous diſorders; for opening obſtructions of the viſcera, attenuating and promoting the evacuation of viſcid juices. Frederick Hoffman had a very high opinion of it as a purifier of the blood; and aſſures us, that with this intention ſcarce any plant exceeds it. Both watery and ſpirituous menſtrua extract its virtues.

GALANGA MINOR [*Brun.*]
Radix.
Maranta galanga Lin.
Galangal; the root.

This root is brought from China, it comes to us in pieces ſcarce an inch long, and not half ſo thick, full of joints, with ſeveral circular rings on the outſide; of an aromatic ſmell, and a bitteriſh, hot, biting taſte. Galangal is a warm ſtomachic bitter: it has been frequently preſcribed in bitter infuſions, but the flavour it gives is not agreeable.

GALBANUM [*Lond. Ed.*]
Gummi reſina.
Bubon Galbanum Lin.
Galbanum; the gum.

This is the concrete juice of an African plant. The juice, as brought to us, is ſemipellucid, ſoft, tenacious; of a ſtrong, and, to ſome, unpleaſant ſmell; and a bitteriſh warm taſte: the better ſort is in pale coloured maſſes, which, on being opened, appear compoſed of clear white tears. Geoffroy relates, that a dark greeniſh oil is to be obtained from this ſimple by diſtillation, which, upon repeated rectifications, becomes of an elegant ſky blue colour. The purer ſorts of galbanum are ſaid by ſome to diſſolve entirely in wine, vinegar, or water; but theſe liquors are only partial menſtrua with regard to this drug; nor do ſpirit of wine, or oils,

prove

prove more effectual in this respect: the best dissolvent is a mixture of two parts spirit of wine and one of water. Galbanum agrees in virtue with gum ammoniacum; but is generally accounted less efficacious in asthmas, and more so in hysterical complaints. It is an ingredient in the gum pills, the gum plaster, and some other officinal compositions.

GALEGA [*Brun.*] *Herba.*
Galega officinalis Lin.
Goat's rue; the herb.

This was celebrated as an alexipharmac; but its sensible qualities discover no foundation for any virtues of this kind: the taste is merely leguminous; and in Italy, where it grows wild, it is said to be used as food.

GALLA [*Lond. Ed.*]
Nidus cynipidis quercus orientalis.
Galls.

These are excrescences found in the warmer countries, upon the oak tree: they are produced by a kind of insect (the cynips), which wounds the young buds or branches, and they afterwards serve as a lodgement for its eggs: the animal within the gall eats its way through; those which have no hole are found to have the insect remaining in them. The best galls come from Aleppo: these are not quite round and smooth like the other sorts, but have several tubercles on the surface. Galls have a very austere styptic taste, without any smell: they are very strong astringents, and as such have been sometimes made use of both internally and externally, but are not much taken notice of by the present practice.

Some recommend an ointment of powdered galls and hogs lard as very effectual in certain painful states of hæmorrhois; and it is alleged, that the internal use of galls has cured intermittents after the Peruvian bark has failed. A mixture of galls with a bitter and aromatic has been proposed as a substitute for the bark.

GALLIUM LUTEUM [*Brun.*] *Herba.*
Gallium verum Lin.
Ladies bed-straw; the herb.

This herb has a subacid taste, with a very faint, not disagreeable smell: the juice changes blue vegetable infusions of a red colour, and coagulates milk, and thus discovers marks of acidity. It stands recommended as a mild styptic, and in epilepsy; but has never been much in use.

GAMBOGIA [*Lond. Ed.*]
Gummi resina.
Cambogia gutta Lin.
Gamboge; the gum resin.

Gamboge; a solid concrete juice, brought from the East-Indies in large cakes or rolls. The best sort is of a deep yellow or orange colour, breaks shining and free from dross: it has no smell, and very little taste, unless kept in the mouth for some time, when it impresses a slight sense of acrimony. It immediately communicates to spirit of wine a bright golden colour, and almost entirely dissolves in it; Geoffroy says, except the sixth part. Alkaline salts enable water to act upon this substance powerfully as a menstruum: the solution made by their means is somewhat transparent, of a deep blood red colour, and passes the filtre: the dulcified spirit of sal ammoniac readily and entirely dissolves it, and takes up a considerable quantity; and what is pretty remarkable, this solution mixes either with water or spirit, without growing turbid.

Gamboge evacuates powerfully both upwards and downwards; some con-

condemn it as acting with too great violence, and occasioning dangerous hypercatharses; whilst others are of a contrary opinion. Geoffroy seems particularly fond of this medicine, and informs us, that he has frequently given, from two to four grains, without its proving at all emetic; that from four to eight grains, it both vomits and purges, without violence; that its operation is soon over; and that if given in a liquid form, and sufficiently diluted, it stands not in need of any corrector; that in the form of a bolus or pill, it is most apt to prove emetic, but very rarely has this effect if joined along with *mercurius dulcis*. He nevertheless cautions against its use where the patient cannot easily bear vomiting

It has been used in dropsy with cream of tartar or jalap, or both, to quicken their operation. It is also recommended by some to the extent of fifteen grains with an equal quantity of vegetable alkali in cases of the tape-worm. This dose is ordered in the morning; and if the worm is not expelled in two or three hours, it is repeated even to the third time with safety and efficacy. It is asserted, that it has been given to this extent even in delicate habits

This is said to be the remedy alluded to by Baron Van Swieten, which was employed by Dr Herrenschward, and with him proved so successful in the removal of the tænia lata.

GENISTA [*Lond. Ed.*] *Cacumen, semen.*

Spartium scoparium Lin.

Broom; the top and seed.

The leaves of this shrub have a nauseous bitter taste: decoctions of them loosen the belly, promote urine, and stand recommended in hydropic cases.

The flowers are said to prove cathartic in decoction, and emetic in substance; though in some places, as Lobel informs us, they are commonly used, and in large quantity, in salads, without producing any effect of this kind. The qualities of the seeds are little better determined: some report, that they purge almost as strongly as hellebore, in the dose of a dram and a half; whilst the author above mentioned relates, that he has given a decoction of two ounces of them as a gentle emetic.

An infusion of a dram of well powdered and sifted broom seed for twelve hours, in a glass and a half of rich white wine taken in the morning fasting, is recommended in an anonymous pamphlet as a sovereign remedy in dropsy. The patient is afterwards to walk or ride for an hour and an half, and then to swallow two ounces of olive oil. This method is to be repeated every second day, or once in three days, till the cure be completed.

Broom ashes have been long recommended in dropsy, and are particularly celebrated by Dr Sydenham. But the efficacy of this medicine depends entirely on the alkaline salt, and not in the smallest degree on the vegetable from which it is obtained by burning.

GENTIANA [*Lond. Ed.*] *Radix.*

Gentiana lutea Lin.

Gentian; the root.

This plant is found wild in some parts of England: but the dried roots are most commonly brought from Germany. They should be chosen fresh, and of a yellow or bright gold colour within. This root is a strong bitter; and as such, very frequently made use of in practice: in taste it is less exceptionable than most of the other substances of this class: infusions of it, flavoured with orange-peel, are sufficiently

grateful. It is the capital ingredient in the bitter wine, tincture, and infusion of the shops. An extract made from it is likewise an officinal preparation.

This useful bitter is not employed under the form of powder, as it loses considerably by the drying, which is requisite for giving it that form.

A poisonous root was some years ago discovered among some of the gentian brought to London; the use of which occasioned violent disorders, and in some instances death. This is easily distinguishable by its being internally of a white colour, and void of bitterness. This poisonous simple seems to be the root of the aconitum; a plant with which Lobel informs us the inhabitants of some parts of the Alps used formerly to empoison darts.

GEOFRŒA [*Ed.*] *Cortex.*
Geoffræa inermis Lin.
Cabbage bark tree; the bark.

The bark of this tree, which grows in the low savannahs of Jamaica, is of a grey colour externally, but black and furrowed on the inside. It has a mucilaginous and sweetish taste, and a disagreeable smell. It is given in cases of worms, in form of powder, decoction, syrup, and extract. The decoction is preferred; and is made by slowly boiling an ounce of the fresh dried bark in a quart of water, till it assume the colour of Madeira wine. This sweetened is the syrup; evaporated, it forms an extract. It commonly produces some sickness and purging; sometimes violent effects, as vomiting, delirium, and fever. These last are said to be owing to an over-dose, or to drinking cold water; and are relieved by the use of warm-water, castor oil, or a vegetable acid. It should always be begun in small doses. But when properly and cautiously administered, it is said to operate as a very powerful anthelmintic, particularly for the expulsion of the lumbrici, which are a very common cause of disease in the West-India islands; and there it is very frequently employed. But it has we believe been but little used in Britain.

GINSENG [*Lond. Ed.*] *Radix.*
Panax quinquefolium Lin.
Ginseng; the root.

Ginseng is a small root, which as used in Britain is chiefly brought from North America; sometimes from China; but much more frequently the American ginseng is carried from Britain to China. Every root is an inch or two in length, taper, finely striated, of a whitish or yellowish colour. It has a very sweet taste, accompanied with a slight bitterness and warmth.

The Chinese are said to have a very extraordinary opinion of the virtues of this root, and to look upon it as an universal restorative in all decays, from age, intemperance, or disease. The great value there set upon it, has prevented its being exported from thence into other countries, and its discovery in North America is but of late date; so that among us it has hitherto been very rarely made use of; although, from what can be judged of it from the taste, it seems to deserve some regard, especially as it is now procurable in plenty.

GLADIOLUS, vide Iris PALUSTRIS.

GLYCIRRHIZA [*Lond. Ed.*] *Radix.*
Glycirrhiza glabra Lin.
Liquorice; the root.

This is produced plentifully in all the countries of Europe: that which is the growth of our own is preferable to such as comes from abroad; this

this laſt being generally mouldy, which this root is very apt to become, unleſs kept in a dry place. The powder of liquorice uſually ſold is often mingled with flower, and perhaps too often with ſubſtances not quite ſo wholeſome: the beſt ſort is of a brownifh yellow colour the fine pale yellow being generally ſophiſticated, and it is of a very rich ſweet taſte, much more agreeable than that of the freſh root. Liquorice is almoſt the only ſweet that quenches thirſt; whence it was called by the Grecks *adipſon*. Galen takes notice, that it was employed with this intention in hydropic caſes, to prevent the neceſſity of drinking. Mr Fuller, in his *Medicina Gymnaſtica*, recommends this root as a very uſeful pectoral, and ſays it excellently ſoftens acrimonious humours, at the ſame time that it proves gently detergent: and this account is warranted by experience. It is an ingredient in the pectoral ſyrup, pectoral troches, the compound lime-waters, decoction of the woods, compound powder of gum tragacanth, lenitive electuary, and theriaca. An extract is directed to be made from it in the ſhops, but this preparation is brought chiefly from abroad, tho' the foreign extract is not equal to ſuch as is made with proper care among ourſelves.

GRAMEN [*Suec.*] *Radix.*
Triticum repens Lin.
Quick-graſs; the roots.

Graſs roots have a ſweet roughiſh taſte. They are principally recommended in aperient ſpring drinks, for what is called purifying and ſweetening the blood.

GRANA PARADISI [*Brun.*] *Fructus.*
Amomum granum paradiſi.
Grains of paradiſe.

The fruit known by this name is brought from the Eaſt-Indies. It is about the ſize of a fig, divided internally into three cells, in each of which are contained two rows of ſmall ſeeds like cardamoms. Theſe ſeeds are ſomewhat more grateful, and conſiderably more pungent, than the common cardamoms, approaching in this reſpect to pepper, with which they agree alſo in their pharmaceutical properties; their pungency reſiding, not in the diſtilled oil, as that of cardamom ſeeds does, but in the reſin extracted by ſpirit of wine.

GRANATUM [*Lond. Ed.*] *Flos, cortex, fructus.*
Punica granatum Lin.

Pomegranate; the flowers called *balauſtine*, and rind of the fruit. The pomegranate is a low tree, or rather ſhrub, growing wild in Italy and other countries in the ſouth of Europe: it is ſometimes met with in our gardens; but the fruit, for which it is chiefly valued, rarely comes to ſuch perfection as in warmer climates. This fruit has the general qualities of the other ſweet ſummer fruits, allaying heat, quenching thirſt, and gently looſening the belly. The rind is a ſtrong aſtringent, and as ſuch is occaſionally made uſe of. The flowers are of an elegant red colour, in appearance reſembling a dried red roſe. Their taſte is bitteriſh and aſtringent. They are recommended in diarrhœas, dyſenteries, and other caſes where aſtringent medicines are proper.

GRATIOLA [*Lond. Ed.*] *Herba.*
Gratiola officinalis Lin.
Hedge-hyſſop; the leaves.

This is a ſmall plant, met with, among us, only in gardens. The leaves have a very bitter, diſagreeable taſte: an infuſion of a handful of them when freſh, or a dram when dried, is ſaid to operate ſtrongly as a cathartic. Kramer reports, that he

has found the *root* of this plant a medicine ſimilar in virtue to ipecacuanha.

This herb has been mentioned as uſeful in the venereal diſeaſe: And by ſome it has been highly extolled in maniacal caſes.

GUAIACUM [*Lond. Ed.*] *Lignum cortex, gummi-reſina.*

Guaiacum officinale Lin.

Guaiacum; its wood, bark, and reſin.

The guaiacum is a tree growing in the warmer parts of the Spaniſh Weſt-Indies.

The wood is very ponderous, of a cloſe compact texture; the outer part is of a yellow colour, the heart of a deep blackiſh green, or variegated with black, green, pale and brown colours: the bark is thin, ſmooth, externally of a dark greyiſh hue: both have a lightly aromatic, bitteriſh, pungent taſte; the bark is ſomewhat the weakeſt. The reſin which exudes from inciſions made in the trunk of the tree is brought to us in irregular maſſes, uſually friable, of a duſky greeniſh, and ſometimes of a reddiſh caſt, with pieces of the wood among them: its taſte is more acrid and pungent than that of the wood or bark.

Their general virtues are thoſe of a warm, ſtimulating medicine: they ſtrengthen the ſtomach and other viſcera; and remarkably promote the urinary and cuticular diſcharge: hence, in cutaneous defedations, and other diſorders proceeding from obſtructions of the excretory glands, and where ſluggiſh ſerous humours abound, they are eminently uſeful; rheumatic and other pains have often been relieved by them. They are alſo laxative. The reſin is the moſt active of theſe drugs; and the efficacy of the others depends upon the quantity of this part contained in them: the reſin is extracted from the wood in part by watery liquors, but much more perfectly by ſpirituous ones; the watery extract of this wood, kept in the ſhops, proves not only leſs in quantity, but conſiderably weaker than one made with ſpirit. This laſt extract is of the ſame quality with the native reſin, and differs from that brought to us only in being purer. The gum, or extracts, are given from a few grains to a ſcruple or half a dram, which laſt doſe proves for the moſt part conſiderably purgative. The officinal preparations of guaiacum are an extract of the wood, a ſolution of the gum in rectified ſpirit of wine, and a ſolution in volatile ſpirit, and an empyreumatic oil diſtilled from the wood.

Guaiac in form of decoction has been ſaid to cure the venereal diſeaſe; and in this country it is frequently uſed as an adjuvant to mercury. The reſin diſſolved in rum, or combined with water, by means of mucilage or the yolk of egg, or in the form of the volatile tincture or elixir, is much employed in gout and chronic rheumatiſm. The tincture or elixir has been given to the extent of half an ounce twice a-day, and is ſometimes uſefully combined with laudanum.

GUMMI AMMONIACUM, vide AMMONIACUM.

GUMMI ARABICUM [*Lond. Ed.*].

Mimoſa nilotica Lin.

Gum arabic.

Gum arabic is a concrete gum, exuding from a tree growing in conſiderable abundance in Egypt and Arabia, which has accordingly given name to this gum. It is brought to us from Turky, in ſmall irregular maſſes or ſtrings, of a pale yellowiſh colour. The true gum Arabic is rarely to be met with in the ſhops;

ſhops; gum ſenega or ſenica, which comes from the coaſt of Guinea, being uſually ſold for it. This greatly reſembles the other, and perhaps, as Dale conjectures, exudes from a tree of the ſame kind: it is generally in large pieces, rough on the outſide; and in theſe circumſtances poſſibly conſiſts the only difference between the two; altho' the former is held to be the purer and finer gum, and therefore preferred for medicine; and the latter the ſtrongeſt, moſt ſubſtantial, and cheapeſt, and conſequently more employed for mechanic uſes. The virtues of this gum are the ſame with thoſe of gummy and mucilaginous ſubſtances in general: it is given from a ſcruple to two drams, in hoarſeneſſes, a thin acrimonious ſtate of the fluids, and where the natural mucus of the inteſtines is abraded. It is an ingredient in the white decoction, chalk julep, the common emulſion, and ſome of the troches.

GUMMI ELEMI, vide ELEMI.

GUMMI TRAGACANTHA [*Lond. Ed.*]
Aſtragalus tragacanthus Lin.
Gum tragacanth.

The gum tragacanth is obtained from a thorny buſh growing in Crete, Aſia, and Greece. This gum is of a much ſtronger body than either of the foregoing, and does not ſo perfectly diſſolve in water. A dram will give to a pint of water the conſiſtence of a ſyrup, which a whole ounce of gum arabic is ſcarce ſufficient to do. Hence its uſe for forming troches, and the like purpoſes, in preference to the other gums. It gives name to an officinal powder, and is an ingredient in the compound powder of ceruſs.

GUTTA GAMBA, vide GAMBOGIA.

HÆMATITES *Lapis* [*Brun.*]
Hæmatites, or bloodſtone.

This is an elegant iron ore, extremely hard, of a dark reddiſh or yellowiſh colour: it is found either along with other ores of iron, or in diſtinct mines by itſelf. With regard to its medical virtues, we conceive they do not vary from thoſe experienced from ruſt, and the common croci of iron, notwithſtanding the extraordinary opinion which many have entertained of it; ſuch as its curing ulcers of the lungs, which Geoffroy ſays the hæmatites dries and heals.

HEDERA ARBOREA, [*Brun.*] *Folia, reſina.*
Hedera helix Lin.
Ivy; the leaves and reſin.

This is a climbing ſhrubby plant, growing commonly from the trunks of trees, or on old walls. The leaves have very rarely been given internally; notwithſtanding they are recommended ſtrongly by ſome againſt the atrophy of children; their taſte is nauſeous, acrid, and bitter. Externally, they have ſometimes been employed for drying and healing ichorous ſores, and likewiſe for keeping iſſues open. The berries were ſuppoſed by the ancients to have a purgative and emetic quality; later writers have recommended them in ſmall doſes, as diaphoretics and alexipharmacs; and Mr Boyle tells us, that in the London plague the powder of them was given with vinegar, with good ſucceſs, as a ſudorific. It is probable the virtue of the compoſition was rather owing to the vinegar than to the powder. The reſin was ranked by the ancients (if their δακρυον τη κισσ was the ſame with our *gummi hedera*)

rae) among the depilatories; from this claſs, which it certainly had no title to, it has ſince been removed to that of conglutinaters of wounds, to which it has probably as little title.

HEDERA TERRESTRIS [*Ed.*] *Herba.*

Glechoma hederacea Lin.

Ground ivy; the leaves.

Ground-ivy is a low plant, frequent in hedges and ſhady places. It has an aromatic, though not very agreeable ſmell; and a quick, bitteriſh, warm taſte. This herb is an uſeful corroborant, aperient, and detergent; and hence ſtands recommended againſt laxity, debility, and obſtructions of the viſcera: ſome have had a great opinion of it for cleanſing and healing ulcers of the internal parts, even of the lungs; and for purifying the blood. It is cuſtomary to infuſe the dried leaves in malt liquors; a practice not to be commended, though it readily communicates its virtues, and likewiſe helps to fine them down: ſcarce any other herb has this effect more remarkably than ground-ivy.

HELENIUM, vide ENULA CAMPANA.

HELLEBORASTER [*Lond.*] *Folium.*

Helleborus fœtidus Lin.

Bears foot; the leaves.

The leaves of this plant taken in ſeveral different forms have been by ſome recommended as a very powerful anthelmintic. They are particularly extolled by Dr Biſſet in his eſſay on the Medical Conſtitution of Great Britain, eſpecially under the form of ſyrup, made by moiſtening the leaves of the freſh herb in vinegar, and then preſſing out their juice, which was formed into a ſyrup with coarſe ſugar. Of this ſyrup, Dr Biſſet gave to children from two to ſix years of age, one tea ſpoonful at bed-time and another in the morning, for two or three days ſucceſſively. The doſe was increaſed or diminiſhed, according to the ſtrength of the patient. And in this way he found it very ſucceſsful in the expulſion of lumbrici.

Where the helleboraſter is to be employed, this form is perhaps the beſt, and we doubt not that it may ſucceed where others have failed: but it ſhould not, we apprehend, be employed till ſafer anthelmintics have been tried in vain. For we have heard of ſome inſtances where the imprudent adminiſtration of it has been attended even with fatal conſequences.

HELLEBORUS ALBUS [*Lond. Ed.*] *Radix.*

Veratrum album Lin.

White hellebore; the root.

This plant grows ſpontaneouſly in Switzerland and the mountainous parts of Germany The root has a nauſeous, bitteriſh, acrid taſte, burning the mouth and fauces: if wounded when freſh, it emits an extremely acrimonious juice, which mixed with the blood, by a wound, is ſaid to prove very dangerous: the powder of the dry root, applied to an iſſue, occaſions violent purging; ſnuffed up the noſe, it proves a ſtrong, and not always a ſafe ſternutatory This root, taken internally, acts with extreme violence as an emetic; and has been obſerved, even in a ſmall doſe, to occaſion convulſions, and other terrible diſorders. The ancients ſometimes employed it in very obſtinate caſes, and always made this their laſt reſource. Modern practice ſeems to have almoſt entirely rejected its internal uſe, though it be ſaid that ſome have lately ventured upon ſo large a doſe as a ſcruple, in maniacal caſes, and have found good effects

effects from it after the ſtronger antimonial preparations had been given in vain. A tincture and honey of it were formerly kept in the ſhops, but are now rejected from the London pharmacopœia. The former is ſtill indeed retained by the Edinburgh college, but it is very rarely if ever uſed.

HELLEBORUS NIGER

[*Lond. Ed.*] *Radix.*

Helleborus niger Lin.

Black hellebore, or melampodium; the roots.

This plant grows wild in the mountainous parts of Switzerland, Auſtria, and Stiria: the earlineſs of its flowers, which ſometimes appear in December, has gained it a place in our gardens.

In ſome parts of Germany, a ſpecies of black hellebore has been made uſe of, which not unfrequently produced violent, and ſometimes deleterious effects: this the Wirtemberg college particularly caution againſt, though without mentioning any marks by which it may be diſtinguiſhed, or even giving the preciſe name of the plant. It appears to be the fetid hellebore of Linnæus, called in England, where it grows wild, ſetterwort, ſettlewort, or baſtard hellebore: the roots of this may be diſtinguiſhed from the officinal ſort by their being leſs black. The roots of the poiſonous aconites reſemble in appearance thoſe of the black hellebore; and in the Breſlaw collections we find ſome inſtances of fatal effects occaſioned by miſtaking the former for the latter: theſe alſo are happily diſcoverable by their colour; the *aconitum* being lighter colonred than even the paleſt of the black hellebores. The faculty of Paris, by allowing the uſe of one of the paler hellebores (the green-flowered, which grows wild in England, and is called by our farriers pegroot), have in ſome degree deprived the ſhops of the benefit of this criterion. Since therefore the two noxious roots which the buyer is moſt apt to miſtake for this, are diſtinguiſhable from it by their colour, but have no other external mark by which they may be with certainty known, particular regard ought to be had to this circumſtance; only the deepeſt black being choſen, and all the paler roots rejected.

The taſte of hellebore is acrid and bitter. Its acrimony, as Dr Grew obſerves, is firſt felt on the tip of the tongue, and then ſpreads immediately to the middle, without being much perceived on the intermediate part; on chewing it for a few minutes, the tongue ſeems benumbed, and affected with a kind of paralytic ſtupor, as when burnt by eating any thing too hot: the fibres are more acrimonious than the head of the root from which they iſſue. Black hellebore root, taken from fifteen grains to half a dram, proves a ſtrong cathartic; and as ſuch has been celebrated for the cure of maniacal, and other diſorders proceeding from what the ancients called *atra bilis*: in theſe caſes, medicines of this kind are doubtleſs occaſionally of uſe, though they are by no means poſſeſſed of any ſpecific power. It does not however appear, that our black hellebore acts with ſo much violence as that of the ancients: whence many have ſuppoſed it to be a different plant; and indeed the deſcriptions which the ancients have left us of their hellebore, do not agree to any of the ſorts uſually taken notice of by modern botaniſts. Another ſpecies has been diſcovered in the eaſtern countries, which Tournefort diſtinguiſhes by the name of *helleborus niger orientalis, ampliſſimo folio, caule prælto, flore purpuraſcente*, and ſuppoſes to be the true ancient hellebore, from its

its growing in plenty about mount Olympus, and in the iſland of Anticyra, celebrated of old for the production of this antimaniacal drug: he relates, that a ſcruple of this ſort, given for a doſe, occaſioned convulſions.

Our hellebore is at preſent looked upon principally as an alterative; and in this light is frequently employed, in ſmall doſes, for attenuating viſcid humours, promoting the uterine and urinary diſcharges, and opening inveterate obſtructions of the remoter glands: it often proves a very powerful emmenagogue in plethoric habits, where ſteel is ineffectual or improper. An extract made from this root with water, is one of the mildeſt, and for the purpoſes of a cathartic the moſt effectual preparations of it: this operates ſufficiently, without occaſioning the irritation which the pure reſin is accompanied with. A tincture drawn with proof ſpirit contains the whole virtue of the hellebore, and ſeems to be one of the beſt preparations of it when deſigned for an alterative: this tincture, and the extract, are kept in the ſhops.

The melampodium is the baſis of Bacher's tonic pills for the dropſy. The root is ordered to be macerated in rectified ſpirit of wine, the liquor expreſſed is repeatedly mixed with water and duly evaporated. This is made up into pills with an extract of myrrh and powder of carduus benedictus. They are ſaid to be cathartic and diuretic, and at the ſame time ſtrengtheners of the ſolids.

HEPATICA NOBILIS [*Brun.*] *Herba.*

Anemone hepatica Lin.

Noble liverwort; the herb.

This herb has a place in our gardens on account of the beauty and early appearance of its flowers. It is a cooling, gentle reſtringent herb; and hence recommended in a lax ſtate of the fibres as a corroborant.

HERMODACTYLUS [*Brun.*] *Radix.*

Iris tuberoſa Lin.

Hermodactil.

This is a root brought from Turky. It is of the ſhape of a heart flatted, of a white colour, compact, yet eaſy to cut or powder; of a viſcous ſweetiſh taſte, with a light degree of acrimony.

Hermodactils were of great repute among the ancients as a cathartic; but thoſe we now meet with in the ſhops have very little purgative virtue; Neumann declares he never found them to have any effect at all.

HERNIARIA [*Brun.*] *Folia.*

Herniaria glabra Lin.

Rupturewort; the leaves.

This is a low herb, growing wild in ſandy and gravelly grounds. It is a very mild reſtringent, and may, in ſome degree, be ſerviceable in diſorders proceeding from a weak flaccid ſtate of the viſcera: but to the virtue which it has been moſt celebrated for, that of curing hernias, it has no title.

HIPPOCASTANUM [*Ed.*] *Fructus*

Æſculus hippocaſtanum Lin.]

Horſe-cheſnut; the fruit.

This fruit has been uſed as food for ſheep and poultry, and as ſoap for waſhing. It was much employed in powder as a ſternutatory by an itinerant oculiſt, and has been recommended by ſome others in certain ſtates of ophthalmia, headach, &c. in which errhines are indicated.

Its effects as a ſternutatory may alſo be obtained by uſing it under the form of infuſion or decoction drawn up into the noſtrils. And it

is

is entirely with a view to its errhine power that it is now introduced into the pharmacopœia of the Edinburgh college. But besides this, the bark has also been represented by some as a cure for intermittent fevers; and it is probably with this intention that this part of the hippocastanum is introduced as an officinal article in the Pharmacopœia Rossica.

HORDEUM [*Lond.*] *Semen, semen perlatum.*

Hordeum distichon Lin.

Barley, and pearl-barley.

Barley is a well known farinaceous grain, cultivated in great abundance in our fields. Pearl-barley is prepared by grinding the shell barley into little round granules, which appear of a kind of pearly whiteness.

Barley, in its several states, is more cooling, less glutinous, and less nutritious, than wheat or oats: among the ancients, decoctions of it were the principal aliment and medicine in acute diseases. Both a simple and compound decoction of barley are introduced into our pharmacopœias.

HORMINUM SATIVUM [*Brun.*] *Herba.*

Horminum salvia Lin.

Garden clary; the leaves and seeds.

These have a warm, bitterish pungent taste; and a strong, not very agreeable smell: the touch discovers in the leaves a large quantity of glutinous or resinous matter. They are principally recommended in the fluor albus, and other female weaknesses, in hysteric disorders, and in flatulent colics.

HYDRAGYRUM, sive ARGENTUM VIVUM.

Mercury, or quicksilver.

Mercury is an opake silver-coloured mineral fluid; appearing to the eye like tin or lead when melted: it is heavier than any other fluid, and than most of the metallic bodies: it does not congeal in the greatest degree of natural cold hitherto known; in the fire it proves totally volatile. This mineral is either met with in its fluid form in the earth; or extracted by art from certain ores. There are considerable mines of it in Hungary and Spain; and what is employed in Britain comes chiefly from the former of these countries.

The use of mercury in medicine seems to have been little known before the fifteenth century. The ancients looked upon it as a corrosive poison, though of itself perfectly void of acrimony, taste, and smell: there are examples of its having been lodged for years in cavities both of bones and fleshy parts, without its having injured or affected them. Taken into the body in its crude state, and undivided, it passes through the intestines unchanged, and has not been found to produce any considerable effect. It has indeed been recommended in asthmas and disorders of the lungs; but the virtues attributed to it in these cases have not been warranted by experience.

Notwithstanding the mildness and inactivity of crude quicksilver undivided; yet when resolved by fire into the form of fume, or otherwise divided into very minute particles, and prevented from re-uniting by the interposition of proper substances, or combined with mineral acids, it has very powerful effects; affording the most violent poisons, and the most excellent remedies with which we are acquainted.

The mercurial preparations, either given internally or introduced into the habit by external application,

tion, ſeem to forward circulation through even the minuteſt and moſt remote veſſels of the body; and may be ſo managed as to promote excretion through all the emunctories. Hence their common uſe in inveterate chronic diſorders, and obſtinate obſtructions of the excretory glands; in ſcrophulous and cutaneous diſeaſes; and in the venereal lues. If their power be not reſtrained to certain emunctories, they tend chiefly to affect the mouth; and occaſion a plentiful evacuation from the ſalival glands.

The ſalutary effects of mercurials do not depend on the quantity of ſenſible evacuation. This medicine may be gradually introduced into the habit, ſo as, without occaſioning any remarkable diſcharge, to be productive of very happy effects. To anſwer this purpoſe, it ſhould be given in very ſmall doſes, in conjunction with ſuch ſubſtances as determine its action to the kidneys or the pores of the ſkin. By this method inveterate cutaneous and venereal diſtempers have been cured, without any other ſenſible excretion than a gentle increaſe of perſpiration or urine. Where there are ulcers in any part, they diſcharge for ſome time a very fetid matter, the quantity of which becomes gradually leſs, and at length the ulcer kindly heals. If the mercury ſhould at any time, from cold, or the like, affect the mouth, it may be reſtrained by omitting a doſe, and by warmth or ſuitable medicines promoting the perſpiration.

Cooling purgatives are alſo often employed with advantage; but perhaps the moſt effectual means of giving with ſafety a ſudden check to a mercurial ſalivation is by the application of a large bliſter to the back.

Mercury, as uſed in medicine, has been employed in a very great variety of different forms. Of the particular preparations directed by the London and Edinburgh colleges, we ſhall afterwards have occaſion to treat: but to give a full and comprehenſive view of all the mercurial preparations, we ſhall here ſubjoin a table in which they are ſyſtematically arranged.

Dr Schwediauer's TABLE of the PREPARATIONS OF MERCURY, arranged according to Bergman's Table of Elective Attractions. Thoſe marked with the aſteriſm are chiefly in uſe.

I. PREPARATION where the Mercury is ſimply purified.

* *Hydrargyrum purificatum.*
Mercurius crudus purificatus *officinarum.*
Argentum vivum purificatum. *Pharm. Lond.*
Anglis, Quickſilver, crude purified mercury; *Germanis*, Reines queckſilber; *Gallis* Mercure pure.

II. PREPARATIONS in which the Mercury is only divided.

1. By gums or mucilages; ſuch as gum arabic, tragacanth, &c.

* *Hydrargyrum gummoſum.*
Mercurius gummoſus of *Plenck*, (the inventor.)

COMPOSITA.

* *Pilulæ ex hydragryro gummoſo.*
Pilulæ ex mercurio gummoſo. *Plenck. Pharm. Chir.*
Solutio mercurialis gummoſa. *Ibia.*
Mixtura mercurialis. *Pharm. Noſcom. Sti Georgii.*
Potio mercurialis. *Diſpenſatorii Novi Brunſwicenſis.*
Lac mercuriale. *Plenck.*
Syrupus hydrargyri. *Pharmac. Succ.*

2. By reſins or balſams; ſuch as turpentine, balſamum copaiva, &c.

* *Hydrargyrum terebinthinatum*, &c.

COMPOSITA.

* *Pilulæ ex hydragryro terebinthinato.*
Pilulæ

Pilulæ mercuriales. *L.*
Pilulæ mercuriales laxantes. *G.*
Pilulæ mercuriales ſialagogæ. *Pharm. Danic.*
Injectio mercurialis. *Pharm. Edinb. Pauperum.*

3. By ſuet or vegetable oils; ſuch as hog's lard, gooſe-fat, or butter of cocoa nuts.

* *Hydrargyrum unguinoſum.*

* *Unguentum hydrargyri.*
Unguentum ex hydrargyro cœruleum. *E.*
Unguentum mercuriale, ſeu unguentum Neapolitanum. *Pharmac. Auſtriaco-Provincialis.*

COMPOSITA.

α Unguentum cœruleum fortius. *L.*
Unguentum cœruleum mitius. *L.*
Unguentum mercuriale. *D.*
β Ceratum mercuriale. *L.*
γ Emplaſtrum mercuriale. *O.*
Emplaſtrum ex hydrargyro. *E.*
Emplaſtrum ex gummi ammoniaco cum mercurio. *L.*
Emplaſtrum commune cum mercurio. *L.*
Emplaſtrum de ranis cum mercurio. *A.*

4. By calcareous earth; ſuch as chalk, chelæ cancrorum, &c.

Mercurius alkaliſatus.
Pulvis mercurialis. *G.*

III. PREPARATIONS where the Mercury is calcined by heat and air.

* *Hydrargyrum calcinatum.*
Mercurius calcinatus. *L. S.*
Mercurius præcipitatus per ſe. *L.*

COMPOSITA.

* *Pilulæ ex hydrargyro calcinato.*
Pilulæ ſyphilitiæ. *Pharm. Noſoc. Sti Thomæ*
Pilulæ ex mercurio calcinato. *G.*
Pilulæ ex mercurio calcinato anodynæ. *G.*

IV. PREPARATIONS where the Mercury is partly divided and diſſolved.

1. By ſugar candy, or ſaccharine compoſitions; ſuch as conſerva roſarum, cynoſbati, &c.

* *Saccharum hydrargyratum.*

COMPOSITA.

* *Bolus ex hydrargyro ſaccharato.*
Bolus cœruleus. *Th.*
Bolus mercurialis. *G.*

2. Honey.

* *Mel hydrargyratum.*

COMPOSITA.

Pilulæ Æthiopicæ. *E.*
Pilulæ mercuriales purgantes. *E. Paup.*
Pilulæ Belloſti.

3. Mercury combined with ſulphur, (flowers of brimſtone).

* *Hydrargyrum ſulphuratum.*

a. By ſimple trituration or fuſion.

* *Hydrargyrum ſulphuratum nigrum.*
Æthiops mineralis. *O.*

COMPOSITA.

Pulvis Æthiopicus. *G.*

b. By ſublimation.

* *Hydrargyrum ſulphuratum rubrum.*
Cinnabaris factitia, ſeu artificialis. *O.*

COMPOSITA.

Pulvis antilyſſus Sinenſis. *O.*

4. Mercury combined with ſulphur of antimony.

a. By ſimple trituration.

* *Sulphur antimonii hydrargyratum nigrum.*
Æthiops antimonialis. *O.*

COMPOSITA.

Pilulæ Æthiopicæ. *E. D.*

b. By ſublimation.

Sulphur antimonii hydrargyratum rubrum.
Cinnabaris antimonii. *O.*

COMPOSITA.

Bolus Cinnabarinus. *G.*

5. Mercury combined with ſulphur by precipitation.

[See below under the *Preparations with the Vitriolic Acid.*]

V. PREPARATIONS where the mercury is reduced to the form of a metallic ſalt or calx by acids.

1. Acid of ſuet. 2. Acid of common ſalt. 3. Acid of ſugar. 4. Acid of amber. 5. Acid of arſenic. 6. Acid of wood-ſorrel. 7. Acid of phoſphorus. 8. Acid of vitriol. 9. Acid of ſugar of milk. 10. Acid of tartar. 11. Acid of citron or lemon. 12. Acid of nitre. 13. Acid of fluor mineral. 14. Acid of vinegar. 15. Acid of borax. 16. Acid of Berlin blue. 17. Aërial acid.

1. Mercury combined with acid of ſuet (acidum ſebi.)

Hydrargyrum ſebinum.

2. Mer-

2. Mercury combined with the muriatic acid; or acid of common salt.

* a. *Hydrargyrum muriatum.*

* *Hydrargyrum muriatum fortius.* { By sublimation, or by precipitation.

Mercurius sublimatus corrosivus. *O.*

Mercurius sublimatus albus *O.*

Mercurius corrosivus albus. *S.L.*

Mercurius corrosivus via humida paratus. *Monnet.*

COMPOSITA.

Solutio sublimati spirituosa of *Van Swieten.*

Solutio mercurii sublimati corrosivi. *E.*

Mixtura mercurialis. *S.*

Mercurius sublimatus solutus. *G.*

* *Solutio hydrargyri saliti fortioris aquosa.*

Pilulæ e mercurio corrosivo albo. *S.*

Lotio syphilitica flava, (lotio ex hydrargyro muriato fortiori.)

Aqua phagedænica. *O.*

Liquor mercurialis. *A.*

Lotio mercurialis. *Th.*

Solutio sublimati balsamica. *Plenck.*

* *Liquor ad condylomata.*

Aqua caustica pro condylomatibus. *Plenck.*

b. *Calx hydrargyri muriata;* i. e. the calx of mercury united with some muriatic acid.

By sublimation.

* *Hydrargyrum muriatum mitius.*

Mercurius dulcis (sublimatione paratus). *O.*

Mercurius dulcis sublimatus. *L.*

Calomel seu calomelas. *L.*

Aquila alba.

Panacea mercurialis.

Mercurius dulcis lunaris. *Schroeder.*

COMPOSITA.

Bolus mercurialis. *E.*

Bolus jalappæ cum mercurio. *Ibid.*

Bolus rhei cum mercurio. *Ibid.*

Pilulæ calomelanos. *G.*

Pilulæ Plummeri. *E.*

Pilulæ alterantes Plummeri. *O.*

Pilula depurans. *Th.*

Pulvis Plummeri. *O.*

Pilulæ mercuriales purgantes. *A.*

Pilulæ catarrhales purgantes. *D.*

Pilulæ laxantes cum mercurio. *Ibid.*

Pulvis e scammonio cum mercurio. *Th.*

* *Lotio syphilitica nigra, (lotio ex hydrargyro muriato mitiori.)*

Lotio mercurialis. *G.*

By precipitation.

a. From its solution in nitrous acid by common salt.

* *Calx hydrargyri muriata Scheelii.*

Mercurius precipitatus dulcis of *Scheele,* (the inventor.)

b. From its solution in muriatic acid by vegetable alkali.

Mercurius precipitatus albus. *L.*

c. From its solution in muriatic acid by mineral alkali.

Mercurius præcipitatus albus. *A.*

d. From its solution in muriatic acid by volatile alkali.

Mercurius præcipitatus albus. *E.*

e. From its solution in muriatic acid by copper.

Mercurius præcipitatus viridis. *E.*

COMPOSITA.

Unguentum e mercurio præcipitato. *L.*

Linimentum mercuriale. *E.*

Paup.

3. With the acid of sugar.

Hydrarg. saccharatum. *Bergman.*

4. With the acid of amber.

Hydrarg. succinatum. *Bergman.*

5. With the acid of arsenic.

Hydrarg. arsenicatum. *Bergman.*

6. With the acid of wood sorrel, (oxalis acetosella Linnæi).

Hydrargyrum oxalinum. *Bergman.*

7. With phosphoric acid.

Hydrargyrum phosphoratum. *Bergman.*

By precipitation from its solution in the nitrous acid by recent urine.

Rosa mineralis. *O.*

8. With the vitriolic acid.

* a. *Hydrargyrum vitriolatum.*

Vitriolum mercurii. *O.*

Oleum mercurii. *O.*

b. *Calx hydrargryi vitriolata (flava.)*

Turpethum minerale. *O.*

Mercurius emeticus flavus. *L.*

Mer-

Mercurius flavus. *E.*
Mercurius præcipitatus luteus. *D*
Turpethum nigrum. *O.*

c. Mercury precipitated from its solution in nitrous acid by hepar sulphuris or hepar calcis.
Mercurius præcipitatus niger. *O.*

9. With the acid of sugar of milk

10. With the acid of tartar.
a. Hydrargyr. tartarisatum. *Bergman.*
b. With purified tartar, commonly called *cream of tartar*, (*veg. alkali superaturated with the acid of tartar*).
* *Tartarus hydrargyratus.*
Terre feuilletee mercurielle of Dr *Pressavin*. (the inventor.)
c. Mercury precipitated from its solution in nitrous acid by the acid of tartar.
* *Calx hydrargyri tartarisata flava; vulgo*, Pulvis Constantinus.
d. Mercury precipitated from its solution in muriatic and tartarous acid by fixed vegetable alkali
* *Calx hydkargyri tartarisata alba; vulgo*, Pulvis argenteus.

11. With the acid of citron.
Hydrargyrum citratum. *Bergman.*

12. With the acid of nitre.
* *Hydrargyrum nitratum.*
A. Simply dissolved.
* *Acidum nitri hydrargyratum.*
Solutio mercurii. *E.*
COMPOSITA.
Unguentum citrinum. *E. A. S.*
B. Evaporated and calcined by fire.
* *Hydrargyrum nitratum rubrum.*
Mercurius corrosivus ruber. *L. E.*
Mercurius præcipitatus ruber. *O.*
Pulvis principis. *O.*
Mercurius corallinus. *L.*
Mercurius tricolor. *O.*
Panacea mercurii. *O.*
Arcanum corallinum. *O.*
Panacea mercurii rubra. *O.*
COMPOSITA.
Balsamus mercurialis. *Plenck.*
Unguentum ophthalmicum. *St Yves.*
Balsamum ophthalmicum rubrum. *D.*
Unguentum præcipitatum. *G.*
Unguentum ad lippitudinem. *Tb.*
Unguentum mercuriale rubrum *D.*
Unguentum pomatum rubrum. *D.*

C. Precipitated from its solution in nitrous acid.
a. By volatile alkali.
* *Hydrargyrum nitratum cinereum.*
Pulvis mercurii cinereus. *E.*
Turpethum album. *O.*
Mercurius præcipitatus dulcis. *O.*
COMPOSITA.
Dr Ward's white drops, (mercury precipitated by nitrous acid, and redissolved by sal ammoniac).
Vegetable syrup.
Syrup de *Bellet.*
b. By vinous volatile alkali, (spiritus salis ammoniaci vinosus).
Turpethum nigrum.
Mercurius præcipitatus niger.
c. By fixt vegetable alkali.
Mercurius præcipitatus fuscus. *Wurtz.*
d. By Copper.
Mercurius præcipitatus viridis. *B.*

13. With the acid of spar, (fluor mineralis.)
Hydrargyrum fluoratum. *Bergman.*

14. With the acid of vinegar.
Hydrargyrum acetatum. *Bergman.*
COMPOSITA.
Troches or pills of *Keyser.*

15. With the acid of borax.
Hydrargyr. boraxatum. *Bergman.*

16. With the acid of Berlin blue.

17. With the acid of Molybdæna.

18. With the acid of tungstone.

19. With the aërial acid, (fixt air).
Hydrargyrum aëratum. *Bergman.*

Notwithstanding this immense number of mercurial preparations, there is reason to believe, that every useful purpose to be answered by mercury may be obtained from a very few. The mercurial preparations

tions in general, with a view to their uſe both externally and internally, may be divided into two great claſſes, the mild and the acrid. Almoſt every purpoſe to be anſwered by the former, may be accompliſhed by the unguentum hydrargyri and pilulæ ex hydrargyro of the London and Edinburgh pharmacopœias; while moſt of the effects to be obtained from the latter may be dervied from the proper uſe of thoſe preparations, hitherto generally known under the title of Calomel and Corroſive Sublimate Mercury.

The marks of pure mercury are, its globules not loſing their ſpherical figure when poured on wood; its not communicating a tinge to water, or ſweetneſs to vinegar, when rubbed with them; its evaporating entirely in an iron ſpoon over the fire; and its having a ſhining appearance without any pellicle on its ſurface. Mercury is beſt purified by diſtillation in an iron pot, with a long neck bent and immerſed in vinegar.

Quickſilver has ſometimes been uſed in its pure metallic ſtate, with the view of removing obſtruction in the alimentary canal, from an idea that it would operate by its weight. But it is ſeldom attended with a good effect, and ſometimes it muſt do harm.

Whole volumes have been written reſpecting its operation and uſe in different diſeaſes, and particularly in venereal affections. Some refer its operation to an evacuant power, others to its operating as a peculiar ſtimulus, and a third let to its poſſeſſing a power of deſtroying or neutralizing the venereal virus. Of theſe opinions, the latter is the moſt generally received, and perhaps the beſt founded. But for a more full view of the controverſy, we may refer our readers to late publications on the venereal diſeaſe, and on mercury, by Mr John Hunter, Dr Schwediauer, and Dr Duncan.

In virulent gonorrhœa, it is doubted whether mercury be neceſſary. This diſeaſe is commonly treated like any ſimilar inflammation; and the chief things attended to are cleanlineſs of the parts, a regular belly, and an abſtinence from every thing ſtimulant in food, drink, &c. An injection of oil with calomel, or white precipitate, is much uſed, and ſome prefer a watery ſolution of opium. The more active injections have ſometimes very diſagreeable conſequnces.

When the conſtitution is affected, which is known by ulcers on the glans, buboes, ulcers in the mouth or throat, copper-coloured ſpots and ulcers on the ſurface, nodes, &c. mercury is thrown into the body either by friction or by the mouth. The general rule is, to keep up a ſlight foreneſs of the gums for ſome ſhort time after the ſymptoms diſappear; at the ſame time it is to be remembered, that mercury ſometimes continues gleets, and induces ulcers, that are difficultly diſtinguiſhed from venereal ones; and that theſe laſt only yield to warm bathing, diaphoretic diluents, opiates, country air, and milk diet. Corroſive ſublimate is ſometimes uſed, as more ſpeedily arreſting diſagreeable, ſpreading, or dangerous ulcers; but the completion of the cure ſhould always be truſted to the mild preparations alone. Mercury is alſo uſed in rabies canina, in worms, in hydrocephalus internus, in tetanus, and is by ſome conſidered as an antidote to the variolous matter.

HYDROLAPATHUM [*Ed.*]

Radix.

Rumex aquaticus Lin.

Water dock; the root.

The leaves of this dock gently looſen

loosen the belly, and have sometimes entered decoctions for removing a costive habit. The roots manifest to the taste a considerable astringency; they form an ink with iron, and are celebrated for the cure of scorbutic and cutaneous disorders, both as exhibited internally and applied externally, in ointments, cataplasms, lotions, and fermentations. Muntingius published a treatise on this plant in 1681, in which he endeavours to prove, that our great water dock is the Herba Britannica of the ancients: and indeed the description which Dioscorides gives of the latter corresponds much with the former. He therefore ascribes to the hydrolapathum all the virtues formerly attributed to the herba Britannica, particularly recommending it against the scurvy and all its symptoms.

Where this disorder is of long standing, so as not to yield to the hydrolapathum alone, Muntingius directs a composition, by the use of which, he says, that even the venereal disease will in a short time be effectually cured. The composition is formed in the following manner: Six ounces of the roots of the water dock with two of saffron; and of mace, cinnamon, gentian root, liquorice root, and black pepper, each three ounces; or where pepper is improper, six ounces of liquorice. These are to be reduced into coarse powder, and put into a mixture of two gallons of wine, with half a gallon of strong vinegar, and the yolks of three eggs. The whole is to be digested with a moderate warmth, for three days, in a glazed vessel close stopped. From three to six ounces of this liquor are to be taken every morning on an empty stomach, for fourteen or twenty days, or longer; and this is represented as a most useful remedy in scorbutic and venereal affections.

HYOSCIAMUS [*Ed.*] *Herba, semen.*

Hyosciamus niger Lin.

Common black henbane; the herb and seeds.

This vegetable grows in great abundance in most parts of Britain: it belongs to the natural order of the solanaceæ, comprehending the greater part of the narcotic vegetables; and it has long been considered as one of the most deleterious of these: but notwithstanding this, there can be no doubt that it proves on many occasions a very useful medicine; and it is to us matter of great surprise, that the London college have given it no place in their list, especially as some of the London practitioners mention it as a remedy which they frequently employ with much benefit.

The smell of the hyosciamus is strong and peculiar; and the leaves when bruised emit somewhat of the odour of tobacco. This smell is still stronger when the leaves are burnt; and on burning they sparkle with a deflagration, somewhat resembling that of nitre: but to the taste they show no evident saline impregnation. When chewed, they are insipid, mild, and mucilaginous; yet when taken to any great extent, they produce the most alarming effects. They give the appearances of intoxication, attended with wild delirium, remarkable dilatation of the pupils of the eyes, and convulsions. It often produces sweat, and sometimes an eruption of pustules over the surface, and generally sound sleep, succeeded by serenity of mind and recruited vigour of the body: but like the other narcotics, instead of these, it sometimes gives rise to vertigo, headach, and general uneasiness. With particular individuals it occasions vomiting, colic pains, a copious flow of urine, and sometimes purging. Upon the whole, like opium,

opium, it is a powerful anodyne; and like cicuta, it is free from any conſtipating effect, having rather a tendency to move the belly.

From theſe operative effects, it is not ſurpriſing that hyoſciamus ſhould have been introduced into the practice of medicine; and accordingly, it appears to have been uſed for a variety of purpoſes, both as applied externally and as taken internally, even at the earlieſt periods of medicine. Several different ſpecies of the hyoſciamus were then employed, as appears from the writings of Dioſcorides and others. Celſus, in particular, was very fond of this medicine; he uſed it externally as a collyrium, in caſes of opthalmia: he employed it topically for allaying the pain of toothach; and he gave it internally, both with the view of mitigating other pains and of producing quiet ſleep.

For a conſiderable length of time, however, the hyoſciamus fell almoſt into diſuſe; but the employment of it has of late been revived by Dr Stoerk of Vienna; and it has been uſed both by him and by many other practitioners with the beſt effects, particularly in thoſe caſes where an anodyne is requiſite, and where an objection occurs to the uſe of opium. Accordingly, it is now employed in many diſeaſes, and in various forms. It is employed for reſolving ſwelling, and allaying pain in caſes of ſcirrhus, under the form of cataplaſm of the leaves, or of a plaſter made from the oil of the ſeeds and powder of the herb, with wax, turpentine, and other articles; or of ointment made of the powder of the leaves with hog's lard. In open ulcers, powder of the leaves ſprinkled on the part has often a good effect.

Internally, the hyoſciamus is chiefly uſed under the form of an extract from the leaves or from the ſeeds; but, contrary to what happens with cicuta, the former appears to be the moſt powerful. This extract has been given with advantages in a variety of nervous affections, as mania, melancholia, epilepſy, hyſteria, &c in glandular ſwellings, in obſtinate ulcerations; and in every caſe where it is neceſſary either to allay inordinate action or mitigate pain. In accompliſhing theſe ends, it is often no leſs uſeful than opium; and it often ſucceeds where opium produces very diſagreeable effects, particularly diſtreſſing confuſion of head. The doſe of this extract muſt be accommodated to the circumſtances of the caſe and of the patient; and it has been increaſed from half a grain to half a dram in the day; for like opium, its influence is very much diminiſhed by habit.

HYPERICUM [*Lond.*] *Flos.*
Hypericum perforatum Lin
St John's wort; the flowers.

This plant grows wild in woods and uncultivated places through Britain. Its taſte is rough and bitteriſh, and its ſmell diſagreeable It abounds with an eſſential oil, which is contained in ſmall veſicles in the growing plant. Theſe veſicles, when viewed, by holding the plant between the eye and the light, reſemble perforations; and the eſſential oil itſelf may be ſeparated to a conſiderable extent by diſtillation. Hence there can be little doubt that it poſſeſſes active principles. At one period it was much employed and highly celebrated as a corroborant, diuretic, and vulnerary; and it was particularly extolled in hyſterical and maniacal diſorders. It was even reckoned of ſuch efficacy as to have received the name of *fuga dæmonum*; but for theſe extraordinary virtues there is probably not much

much foundation; and of late it has been so much neglected as even to lead to its omission in the last edition of the Edinburgh Pharmacopœia.

This plant, however, is probably not without activity; and it is remarkable that the flowery tops tinge expressed oils of a red colour, which very few vegetable substances will do, and communicate a blood red to rectified spirit. The oil tinged by them is kept in the shops.

HYPOCISTIS [*Brun.*] *Succus.*
Cytinus hypocistis Lin.
Hypocistis; the juice.

Hypocistis is a fleshy production, growing in the warmer climates from the roots of different kinds of cisti. Its inspissated juice is an astringent similar to acacia, but somewhat stronger. At present it is scarce otherwise made use of than as an ingredient in some of the old compositions.

HYSSOPUS [*Ed.*] *Herba.*
Hyssopus officinalis Lin.
Hyssop; the herb.

The leaves of hyssop have an aromatic smell, and a warm pungent taste. Besides the general virtues of aromatics, they are particularly recommended in humoral asthmas, coughs, and other disorders of the breast and lungs; and said to promote expectoration: but so little dependence is put upon any property of this kind, that hyssop has now no place in the pharmacopœia of the London college.

JALAPA [*Lond. Ed.*] *Radix.*
Convolvulus jalapa Lin.
Jalap; the root

Jalap is the root of an American plant, brought to us in thin transverse slices from Xalpa, a province of New Spain. The botanical characters of the vegetable which furnishes it are not absolutely ascertained; hence the London college have given it no Linnæan name. But in the opinion of the best botanists it belongs to the genus of convolvulus. In the London pharmacopœia this article has the name of *jalapium*; but from the derivation of the name, from the authority of the best botanical writers, and from the example of all the other modern pharmacopœias, the term *jalapa*, or *jalappa*, is, we think, to be preferred.

Such pieces should be chosen as are most compact, hard, weighty, dark coloured, and abound most with black circular striæ. Slices of bryony root are said to be sometimes mixed with those of jalap: these may be easily distinguished by their whiter colour, and less compact texture. This root has no smell, and very little taste upon the tongue; but when swallowed, it affects the throat with a sense of heat, and occasions a plentiful discharge of saliva.

Jalap in substance, taken in a dose of about half a dram (less or more, according to the circumstances of the patient) in plethoric, or cold phlegmatic habits, proves an effectual, and in general a safe, purgative, performing its office mildly, seldom occasioning nausea or gripes, which too frequently accompany the other strong cathartics. In hypochondriacal disorders, and hot bilious temperaments, it gripes violently, if the jalap be good; but rarely takes due effect as a purge. An extract made by water purges almost universally, but weakly; and at the same time has a considerable effect by urine: the root remaining after this process gripes violently. The pure resin, prepared by spirit of wine, occasions most violent gripings, and other distressing symptoms, but scarce proves at all cathartic: triturated with sugar, or with

almonds into the form of an emulſion, or diſſolved in ſpirit and mixed with ſyrups, it purges plentifully in a ſmall doſe, without occaſioning much diſorder: the part of the jalap remaining after the ſeparation of the reſin, yields to water an extract, which has no effect as a cathartic, but operates powerfully by urine. Its officinal preparations are an extract made with water and ſpirit, a ſimple tincture, and a compound powder.

Frederick Hoffman particularly cautions againſt giving this medicine to children; and aſſures us, that it will deſtroy appetite, weaken the body, and perhaps occaſion even death. In this point, this celebrated practitioner was probably deceived: children, whoſe veſſels are lax, and the food ſoft and lubricating, bear theſe kinds of medicines, as Geoffroy obſerves, better than adults; and accordingly innoculators make much uſe of the tincture mixed with ſimple ſyrup. The compound powder is employed in dropſy, as a hydragogue purge; and where ſtimulus is not contraindicated, jalap is conſidered as a ſafe cathartic.

JAPONICA TERRA. Vide CATECHU.

JASMINUM [*Brun.*] *Flos.*

Jaſminum officinale Lin.

Jaſmine; the flower.

This is a ſmall tree, commonly planted in our gardens. The flowers have a ſtrong ſmell, which is liked by moſt people, though to ſome diſagreeable: expreſſed oils extract their fragrance by infuſion; and water elevates ſomewhat of it in diſtillation, but no eſſential oil has hitherto been obtained from them: the diſtilled water, kept for a little time, loſes its odour. As to their medical virtues, the preſent practice expects not any from them, although they have been recommended for promoting delivery, curing ulcerations of the uterus, &c.

ICHTHYOCOLLA [*Lond.*]

Iſing-glaſs, or fiſh-glue

This is a ſolid glutinous ſubſtance, obtained from a large kind of fiſh caught in the ſeas of Muſcovy. The ſkin and ſome other parts of the animal are boiled in water, the decoction is inſpiſſated to a proper conſiſtence, and then poured out ſo as to form thin cakes; theſe are either farther exſiccated till perfectly dry, or cut while ſoft into ſlices, which are afterwards bent, or rolled up into ſpiral, horſeſhoe, and other ſhapes. Some allege it conſiſts of certain membranous parts of fiſhes, as the air-bladder, inteſtines, &c. only cleanſed, dried, and rolled up or twiſted. This glue is more employed for mechanic purpoſes than in medicine. It may be given in the ſame manner as the vegetable gums and mucilages; regard being had to their different diſpoſition to putreſcence.

It is alſo ſometimes employed externally, with a view to its action as a glue, and is probably the principal conſtituent of the black ſticking plaſter, or court plaſter, as it is commonly called.

IMPERATORIA [*Ed.*] *Radix.*

Imperatoria oſtruthium Lin.

Maſterwort; the root.

This is a native of the Alps and Pyrenean mountains, and ſome parts of Germany, from whence we are ſupplied with roots ſuperior in aromatic flavour to thoſe raiſed in our gardens. The ſmell of this root is very fragrant; its taſte bitteriſh, warm and pungent, glowing in the mouth for a long time after it has been chewed. This root, though un-

undoubtedly an elegant aromatic, is not regarded in the prefent practice; and accordingly it has no place in the London pharmacopœia; but it is ftill retained by the Edinburgh college, as well as in moft of the foreign pharmacopœias. Its flavour is fimilar to that of angelica, but ftronger.

IPECACUANHA [*Lond. Ed.*] *Radix.*

Pfychotria emetica Lin.

Ipecacuan; the root.

The vegetable from which this root is obtained is not with certainty determined, any more than that furnifhing the jalap; but on the authority of the younger Linnæus, in the fupplement which he publifhed to his father's work, the Edinburgh college confider it, and probably with juftice, as being the produce of a fpecies of the pfychotria.

The root is brought from the Spanifh Weft Indies. It is divided into two forts, Peruvian and Brazilian: but the eye diftinguifhes three, afh coloured or grey, brown, and white. The afh-coloured, or Peruvian ipecacuan of the fhops, is a fmall wrinkled root, bent and contorted into a great variety of figures, brought over in fhort pieces full of wrinkles, and deep circular fiffures, quite down to a fmall white woody fibre that runs in the middle of each piece: the cortical part is compact, brittle, looks fmooth and refinous upon breaking: it has very little fmell; the tafte is bitterifh and fubacrid, covering the tongue as it were with a kind of mucilage. The brown is fmall, and fomewhat more wrinkled than the foregoing; of a brown or blackifh colour without, and white within; this is brought from Brazil. The white fort is woody, has no wrinkles, and no perceptible bitternefs in tafte. The firft fort, the afh-coloured or grey ipecacuan, is that ufually preferred for medicinal ufe. The brown has been fometimes obferved, even in a fmall dofe, to produce violent effects. The white, though taken in a large one, has fcarce any effect at all: Mr Geoffroy calls this fort baftard ipecacuan, and complains that it is an impofition upon the public. Geoffroy, Neumann, Dale, and Sir Hans Sloane, inform us, that the roots of a kind of apocynum (dogsbane) are too frequently brought over inftead of it; and inftances are given of ill confequences following from the ufe of thefe roots: if the marks above laid down, particularly the afh colour, brittlenefs, deep wrinkles, and bitterifh tafte, be carefully attended to, all miftakes of this kind may be prevented.

Ipecacuan was firft brought into Europe about the middle of laft century, and an account of it publifhed about the fame time by Pifo; but it did not come into general ufe till about the year 1686, when Helvetius, under the patronage of Lewis XIV. introduced it into practice. This root is one of the mildeft and fafeft emetics with which we are acquainted; and has this peculiar advantage, that if it fhould not operate by vomit, it paffes off by the other emunctories. It was firft introduced among us with the character of an almoft infallible remedy in dyfenteries, and other inveterate fluxes, as menorrhagia and leucorrhœa, and alfo in diforders proceeding from obftructions of long ftanding: nor has it loft much of its reputation by time. In dyfenteries, it almoft always produces happy effects, and often performs a cure in a very fhort fpace of time. In other fluxes of the belly, in beginning dyfenteries, and fuch as are of a malignant kind, or where the patient breathes a tainted air, it has not been found equally fuccefsful: in thefe cafes it

is neceſſary to continue the uſe of this medicine for ſeveral days, and to join with it opiates, diaphoretics, and the like. This root, given in ſubſtance, is as effectual, if not more ſo, than any of the preparations of it: the pure reſin acts as a ſtrong irritating emetic, but is of little ſervice in dyſenteries; whilſt an extract prepared with water is almoſt of equal ſervice in theſe caſes with the root itſelf, though it has little effect as an emetic. Geoffroy concludes from hence, that the chief virtue of ipecacuan in dyſenteries depends upon its gummy ſubſtance, which lining the inteſtines with a ſoft mucilage, when their own mucus has been abraded, occaſions their exulcerations to heal, and defends them from the acrimony of the juices: and that the reſinous part, in which the emetic quality reſides, is required, where the morbific matter is lodged in the glands of the ſtomach and inteſtines. But if the virtues of this root were entirely owing to its mucilaginous or gummy part, pure gums, or mucilages, might be employed to equal advantage. Water, aſſiſted by a boiling heat, takes up from all vegetables a conſiderable portion of reſinous along with the gummy matter: if the ipecacuan remaining after the action of water be digeſted with pure ſpirit, it will not yield half ſo much reſin as at firſt: ſo that the aqueous extract differs from the crude root only in degree, being proportionably leſs reſinous, and having leſs effect, both as an emetic, and in the cure of dyſenteries. The virtues of ipecacuan, in this diſorder, depend upon its promoting perſpiration, the freedom of which is here of the utmoſt importance, and an increaſe of which, even in healthful perſons, is generally obſerved to ſuppreſs the evacuation by ſtool. In dyſenteries, the ſkin is for the moſt part dry and tenſe, and perſpiration obſtructed: the common diaphoretics paſs off without effect through the inteſtinal canal: but ipecacuan, if the patient after a puke or two be covered up warm, brings on a plentiful ſweat. After the removal of the dyſentery, it is neceſſary to continue the uſe of the medicine for ſome time longer, in order to prevent a relapſe; for this purpoſe, a few grains divided into ſeveral doſes, ſo as not to occaſion any ſenſible evacuation, may be exhibited every day; by this means the cure is effectually eſtabliſhed. And indeed ſmall doſes given, even from the beginning, have been often found to have better effects in the cure of this diſeaſe than larger ones. Geoffroy informs us from his own experience, that he has obſerved ten grains of the powder to act as effectually as a ſcruple or two; and therefore confines the doſe betwixt ſix and ten grains: it has lately been found, that even ſmaller doſes prove ſufficiently emetic. The only officinal preparation of this root is a tincture made in wine, which accordingly has now the appellation of *vinum ipecacuanhæ*, both in the London and Edinburgh pharmacopœias.

Many ingenious experiments have been made on the ſubject of ipecacuan by Dr Irving, for which he obtained the prize medal of the Harveian Society at Edinburgh for 1784. He has aſcertained, that while this root contains a gummy reſinous matter, yet that the gummy exiſts in a much greater proportion than the reſinous part; that the gummy part is much more powerfully emetic than the reſinous; that although the cortical part of the root be more active than the ligneous, yet that even the pure ligneous part poſſeſſes a conſiderable emetic power; and that the whole of the root

root poſſeſſes conſiderable influence, both as an antiſeptic and aſtringent. To determine whether the emetic power of ipecacuan was of a volatile or fixed nature, Dr Irving ſubjected it to diſtillation. The water obtained by diſtillation was found to have very little influence; but the decoction which remained in the ſtill, not only operated violently as an emetic, but produced rigours, cold ſweats, and other alarming ſymptoms. By long continued boiling, the activity of the root itſelf is almoſt totally deſtroyed; but Dr Irving found, that the emetic property of ipecacuan was moſt effectually counteracted by means of the acetous acid; inſomuch that thirty grains of the powder taken in two ounces of vinegar, produced only ſome looſe ſtools.

Ipecacuan, particularly in the ſtate of powder, is now advantageouſly employed in almoſt every diſeaſe in which full vomiting is indicated; and when combined with opium under the form of the pulvis ſudorificus, it furniſhes us with the moſt uſeful and active ſweating medicine which we poſſeſs. It is alſo often given with advantage in very ſmall doſes, ſo as neither to operate by vomiting, purging, nor ſweating.

The full doſe of the powder is a ſcruple or half a dram, and double that in form of watery infuſion. The full doſe is recommended in the paroxyſm of ſpaſmodic aſthma, and a doſe of three or four grains every morning in habitual aſthmatic indiſpoſition. A doſe of $\frac{1}{3}$ or $\frac{1}{2}$ grain rubbed with ſugar, and given every four hours or oftener, is recommended in uterine hemorrhagy, cough, pleuriſy, hæmoptoe, &c. and has often been found highly ſerviceable.

IRIS FLORENTINA [*Lond. Ed.*] *Radix.*

Iris florentina Lin.

Florentine orris; the root.

Several varieties of iris are cultivated in our gardens on account of the elegance of their flowers; but the florentine orris is what is chiefly employed for medicinal purpoſes. The roots, when recent, have a bitter, acrid, nauſeous taſte, and taken internally, prove ſtrongly cathartic; and hence the juice is recommended in dropſies, in the doſe of three or four ſcruples. By drying they loſe this quality, yet ſtill retain a ſomewhat pungent, bitteriſh taſte: their ſmell in this ſtate is of the aromatic kind; thoſe produced in the warmer climates have a very grateful flavour, approaching to that of March violets: hence the uſe of the Florentine iris in perfumes, and for flavouring liquors; the ſhops employ it in the white pectoral troches, or *trochiſci amyli*, as they are now ſtyled.

IRIS PALUSTRIS [*Ed.*] *Radix.*

Iris pſeudacorus Lin.

Yellow water flag; the roots.

This plant grows in great abundance by the brinks of rivers, and in other watery places: the root has an acrid taſte; and when freſh, is ſtrongly cathartic. The expreſſed juice, given to the quantity of ſixty or eighty drops every hour or two, and occaſionally increaſed, has been productive of very copious evacuation, after jalap, gamboge, and other ſtrong purgatives had proved ineffectual; and it is in this form that it is alone uſed; for by drying it entirely loſes its purgative effects. But although this article ſtill retains a place in the Edinburgh pharmacopœia, and under proper management might probably furniſh an uſeful medicine, yet it is at preſent very little employed.

JUGLANS [*Lond.*] *Fructus immaturus.*

Juglans regia Lin.

Walnut; the unripe fruit.

The kernel of the fruit is ſimilar in quality to almonds: the ſhell is aſtringent: but neither of them is at preſent much employed in medicine among Britiſh practitioners, although it ſtill retains a place in moſt of the foreign pharmacopœias, as well as in that of the London college.

JUJUBA [*Brun.*] *Baccæ.*

Rhamnus zizyphus Lin.

Jujubes; the fruit.

Jujubes have a pleaſant ſweet taſte. They are recommended in an acrimonious ſtate of the fluids; in coughs from thin ſharp defluxions; and in heat of urine: but they are at preſent, among us, a ſtranger to medicinal practice, and even to the ſhops.

JUNIPERUS [*Lond.Ed.*] *Bacca, cacumen.*

Juniperus communis Lin.

Juniper; the berry and top.

This is an evergreen ſhrub growing upon heaths and hilly grounds in all the parts of Europe: the wood and reſin are not at preſent made uſe of for medicinal purpoſes: the berries are brought from Holland and from Italy, where this ſhrub is very plentiful. The Italian berries are in general reckoned the beſt.

Juniper berries have a ſtrong not diſagreeable ſmell, and a warm, pungent ſweet taſte, which if they are long chewed, or previouſly well bruiſed, is followed by a bitteriſh one. The pungency ſeems to reſide in the bark; the ſweet in the juice; the aromatic flavour in oily veſicles, ſpread through the ſubſtance of the pulp, and diſtinguiſhable even by the eye; and the bitter in the ſeeds: the freſh berries yield, on expreſſion, a rich, ſweet, honey-like, aromatic juice; if previouſly pounded ſo as to break the ſeeds, the juice proves tart and bitter.

Theſe berries are uſeful carminatives and ſtomachics, and are diuretic: for theſe purpoſes a compound ſpirit and eſſential oil diſtilled from them are kept in the ſhops: the liquor remaining after the diſtillation of the oil, paſſed through a ſtrainer, and gently exhaled to the conſiſtence of a rob, proves likewiſe a medicine of great utility, and in many caſes is perhaps preferable to the oil or berry itſelf: Hoffman is expreſsly of this opinion, and ſtrongly recommends it in debility of the ſtomach and inteſtines, and ſays it is particularly of ſervice to old people who are ſubject to theſe diſorders, or labour under a difficulty with regard to the urinary excretion. This rob is of a dark browniſh yellow colour, a balſamic ſweet taſte, with a little of the bitter, more or leſs according as the ſeeds in the berry have been more or leſs bruiſed. But perhaps one of the beſt forms under which they can be uſed is that of a ſimple watery infuſion. This, either by itſelf, or with the addition of a ſmall quantity of gin, is a very uſeful drink for hydropic patients. An infuſion of the tops has alſo been advantageouſly employed in the ſame manner.

KERMES [*Brun.*] *Grana, ſuccus.*

Coccus. quercus coccifera Lin.

Kermes; the grains.

Theſe grains appear, when freſh, full of ſmall, reddiſh ovula, or animalcules, of which they are the nidus. On expreſſion, they yield a red juice, of a bitteriſh, ſomewhat rough and pungent taſte, and a not unpleaſant ſmell: this is brought to us

us from the ſouth of France. The grains themſelves are cured by ſprinkling with vinegar before exſiccation: this prevents the excluſion of the ova, and kills ſuch of the animals as are already hatched; otherwiſe, they change into a winged inſect, leaving the grain an empty huſk.

Kermes, conſidered as a medicine, is a grateful, very mild reſtringent, and corroborant In this light it was looked upon by the Greeks: the Arabians added a cordial virtue: European writers alſo have in general recommended it for exhilarating the ſpirits, and againſt palpitations of the heart: they have alſo been particularly recommended, but without any good foundation, for promoting birth, and preventing abortion. I have known, ſays Geoffroy, many women, who had never reached the end of pregnancy, made joyful mothers by the uſe of pills compoſed of *kermes, germin. cvor. exſiccat.* and *confectio de hyacintho* (a compoſition containing ſome vegetable aſtringents and aromatics, together with gold and ſilver leaf, four precious ſtones, and other ingredients of leſs value:) three of theſe pills muſt be taken for the firſt doſe, and this repeated three times, at the interval of two or three hours; after which three pills more are to be taken every morning on the three laſt days of the moon in every month till delivery. Notwithſtanding this aſſertion, we conceive our readers will with us believe, that neither the kermes nor its auxiliaries are to be much depended on.

KINO [*Lond. Ed.*] *Gummi-reſina.*

Gummi rubrum aſtringens Gambienſe.

Kino; the gum-reſin.

Kino was firſt recommended to the attention of medical practitioners by Dr Fothergill, as being a very uſeful vegetable aſtringent; and in the hands of other practitioners it has been ſo far found to anſwer the character he gave of it, that it is now in very common uſe. It has a conſiderable reſemblance to the catechu; but is much more of a reſinous nature, and of a leſs firm texture: it is alſo redder and more aſtringent; its watery ſolution more decompoſable by acids, and its ink leſs permanent. Its colouring and aſtringent matter are more perfectly taken up by ſpirit than by water, though water readily enough extracts a conſiderable ſhare of both. It is uſed as an aſtringent in diarrhœa, hæmorrhagies, &c. In proof ſpirit it forms an elegant tincture; and it is a principal ingredient in the pulvis ſtypticus and ſome other officinal compoſitions.

LAC [*Roſ.*]

Milk.

Milk is a ſecretion peculiar to women, the females of quadrupeds, and of the cetaceous fiſhes. It may be conſidered as a kind of emulſion, conſiſting of butter, cheeſe, and whey; the whey containing a mucilaginous ſugar, which keeps the butter and cheeſe in union with its water; and it is from this ſugary part that milk is ſubject to the vinous fermentation, as in the Ruſſian koumis, a vinous liquor made of mares milk, and recommended in phthiſis and caſes of weakneſs.

New milk mixes uniformly with common water, the mineral chalybeate waters, wines, and malt liquors that are not acid, weak vinous ſpirits, ſolutions of ſugar, ſoaps, and neutral ſalts; but not with oils expreſſed or diſtilled. Acids both mineral and vegetable coagulate it; as alſo do fixt and volatile alkalies, and highly rectified

ſpirit of wine: the curd made by acids is in part reſolved again by alkaline liquors; as that made by alkalies likewiſe is by acids. Neutral ſalts, nitre in particular, preſerve it from coagulating ſpontaneouſly; and likewiſe render it leſs eaſily coagulable by acids.

The human milk is the ſweeteſt of theſe liquors, and that of aſſes next to it: this laſt is the moſt dilute of them all; on ſuffering it to coagulate ſpontaneouſly, the curd ſcarce amounted to two drams from twelve ounces, whilſt that of cows milk was five times as much; the coagulum of aſſes milk, even when made by acids, forms only into fine light flakes, which ſwim in the ſerum; that of goats milk concretes into more compact maſſes, which ſink.

Upon evaporating twelve ounces of	There remained of dry matter drams,	From which water extracted a ſweet ſaline ſubſtance, amounting, when exſiccated, to drams,
Cows milk	13	$1\frac{1}{2}$
Goats milk	$12\frac{1}{2}$	$1\frac{1}{2}$
Human milk	8	6
Aſſes milk	8	6

The ſaline ſubſtance obtained from aſſes milk was white, and ſweet as ſugar; thoſe of the others brown or yellow, and conſiderably leſs ſweet; that of cows milk, the leaſt ſweet of all. It appears, therefore, that aſſes milk contains more ſerum, and much more of a ſaccharine ſaline matter than thoſe of cows and goats; and that the two latter abound moſt with unctuous groſs matter: hence theſe are found to be moſt nutritious, whilſt the firſt proves moſt effectual as an aperient and detergent.

The inſpiſſated reſiduum of milk, digeſted with about as much water as was waſted in the evaporation, yields an elegant kind of whey, more agreeable in taſte, and which keeps better than that made in the common manner. This liquor promotes the natural ſecretions in general; and, if its uſe is duly continued, does good ſervice in ſcorbutic and other diſorders.

There are conſiderable differences in the milk of the ſame animal, according to its different aliment. Dioſcorides relates, that the milk of goats, who feed on the ſcammony plant and ſpurges, proved cathartic: and examples are given in the Acta Haſſnienſia of bitter milk from the animal having eaten wormwood. It is a common obſervation, that cathartics and ſpirituous liquors given to a nurſe, affect the child: and that the milk of animals feeding on green herbs, is much more dilute than when they are fed with dry ones. Hoffman, from whom moſt of the foregoing obſervations are taken, carries this point ſo far, as to direct the animal to be dieted according to the diſeaſe for which its milk is to be drank.

LACCA [*Suec.*] *Gummi reſina. Croton lacciferum Lin.*

Lac, the gum reſin.

This is a ſort of wax of a red colour, collected in the Eaſt Indies by certain inſects, and depoſited on ſticks faſtened for that purpoſe in the earth. It is brought over, either adhering to the ſticks, or in ſmall tranſparent grains, or in ſemi-

tranſparent

transparent flat cakes: the first is called *stick lac*, the second *seed lac*, and the third *shell lac*. On breaking a piece of stick lac, it appears composed of regular cells like the honeycomb, with small corpuscles of a deep red colour lodged in them: these are the young insects, and to these the lac owes its tincture; for when freed from them, its colour is very dilute. The shell and seed lacs, which do not exhibit any insects or cellular appearance upon breaking, are supposed to be artificial preparations of the other: the seed sort is said to be the stick lac bruised and robbed of its more soluble parts; and the shell to be the seed lac, melted and formed into cakes. The stick lac therefore is the genuine sort, and ought alone to be employed for medicinal purposes. This concrete is of great esteem in Germany, and other countries, for laxity and sponginess of the gums, proceeding from cold, or a scorbutic habit: for this use the lac is boiled in water, with the addition of a little alum, which promotes its solution: or a tincture is made from it with rectified spirit. This tincture is recommended also internally in the fluor albus, and in rheumatic and scorbutic disorders: it has a grateful smell, and a not unpleasant, bitterish, astringent taste: The principal use of lac among us is in certain mechanic arts as a colouring drug, and for making sealing wax.

LACTUCA SATIVA [*Brun.*] *Folia, semina.*

Lactuca sativa Lin.

Garden lettuce; the leaves and seeds.

The several sorts of garden lettuces are very wholesome, emollient, cooling salad herbs, easy of digestion, and somewhat loosening the belly. Most writers suppose that they have a narcotic quality; and indeed, in many cases, they contribute to procure rest; this they effect by abating heat, and relaxing the fibres. The seeds are in the number of the four lesser cold seeds.

Lactuca virosa Lin.

Strong scented wild lettuce.

This plant, which is indigenous in Britain, and grows in some places in considerable abundance, differs very essentially in its qualities from the garden lettuce. Although it has not been introduced into any of the modern pharmacopœias, yet it has of late been highly extolled for some purposes in medicine.

It smells strongly of opium, and resembles it in some of its effects; and its narcotic power, like that of the poppy heads, resides in its milky juice. An extract from the expressed juice is recommended in small doses in dropsy. In dropsies of long standing, proceeding from visceral obstructions, it has been given to the extent of half an ounce a-day. It is said to agree with the stomach, to quench thirst, to be gently laxative, powerfully diuretic, and somewhat diaphoretic. Plentiful dilution is allowed during its operation. Dr Collin of Vienna asserts, that out of 24 dropsical patients, all but one were cured by this medicine.

LADANUM [*Lond.*] *Resina.*

Cistus creticus Lin.

Ladanum, the gum resin.

This resin is said to have been formerly collected from the beards of goats who brouzed the leaves of the cistus: at present, a kind of rake, with several straps or thongs of skins fixed to it, is drawn lightly over the shrub, so as to take up the unctuous juice, which is afterwards scraped off with knives. It is rarely met with pure, even in the places which produce it; the dust, blown upon the plant by the wind, mingling

ling with the tenaceous juice: the inhabitants are alſo ſaid to mix with it a certain black ſand. In the ſhops two ſorts are met with: the beſt (which is very rare) is in dark-coloured almoſt black maſſes, of the conſiſtence of a ſoft plaſter, which grows ſtill ſofter upon being handled; of a very agreeable ſmell, and of a light pungent bitteriſh taſte: the other ſort is harder, not ſo dark coloured, in long rolls coiled up: this is of a much weaker ſmell than the firſt, and has a large admixture of a fine ſand, which in the ladanum examined by the French academy, made up three-fourths of the maſs. Rectified ſpirit of wine almoſt entirely diſſolves pure ladanum, leaving only a ſmall portion of gummy matter which has no taſte or ſmell: and hence this reſin may be thus excellently purified for internal purpoſes. It is an uſeful ingredient in the ſtomachic plaſter, which is now indeed ſtyled the *emplaſtrum ladani.*

LAMIUM [*Brun.*] *Herba, flores.*

Lamium album Lin.

Dead nettle; the leaves and flowers.

This grows wild in hedges; and flowers in April and May. The flowers have been particularly celebrated in uterine fluors and other female weakneſſes, and alſo in diſorders of the lungs; but they appear to be of very weak virtue; and they are at preſent ſo little uſed in Britain as to have now no place in our pharmacopœias.

LAVENDULA [*Lond. Ed.*) *Spicæ florentes.*

Lavendula ſpica Lin.

Lavender; the flowering tops.

There are different varieties of this vegetable, particularly the narrow and broad leaved. The flowers of both have a fragrant ſmell, to moſt people agreeable, and a warm, pungent, bitteriſh taſte: the broad-leaved ſort is the ſtrongeſt in both reſpects, and yields in diſtillation thrice as much eſſential oil as the other; its oil is alſo hotter and ſpecifically heavier: hence in the ſouthern parts of France, where both kinds grow wild, this only is made uſe of for the diſtillation of what is called oil of ſpike. The narrow-leaved is the ſort commonly met with in our gardens.

Lavender is a warm ſtimulating aromatic. It is principally recommended in vertigoes, palſies, tremors, ſuppreſſion of the menſtrual evacuations; and in general in all diſorders of the head, nerves, and uterus. It is ſometimes alſo uſed externally in fomentations for paralytic limbs. The diſtilled oil is particularly celebrated for deſtroying the *pediculi inguinales*, and other cutaneous inſects: if ſoft ſpongy paper, dipt in this oil, either alone, or mixed with that of almonds, be applied at night to the parts infeſted by the inſects, they will certainly, ſays Geoffroy, be all found dead in the morning. The officinal preparations of lavender are, the eſſential oil, a ſimple ſpirit, and a compound tincture.

LAURUS [*Lond. Ed.*] *Folium, bacca.*

Laurus nobilis Lin.

Bay; the leaf and berry.

The berries of the bay are generally brought from the Sreights, tho' the tree bears the colds of our own climate. They have a moderately ſtrong aromatic ſmell, and a warm, bitteriſh, pungent taſte: the berries are ſtronger in both reſpects than the leaves, and afford in diſtillation a larger quantity of aromatic eſſential oil; they yield alſo an almoſt inſipid oil to the preſs, in conſequence of which they prove unctuous in the mouth. Theſe ſimples are warm car-

carminative medicines, and ſometimes exhibited with this intention againſt flatulent colics, and likewiſe in hyſterical diſorders.

Their principal uſe in the preſent practice is in glyſters, and ſome external applications. The leaves enter our common fomentation; and the berries, the plaſter of cummin: they alſo gave name to an electuary, which was little otherwiſe uſed than in glyſters.

LENTISCUS [*Brun.*] *Lignum.*

Piſtacia lentiſcus Lin.

The lentiſc tree; the wood.

This tree or ſhrub is a native of the warm climates, but bears the common winters of our own. The wood is brought to us in thick knotty pieces, covered with an aſh-coloured bark, and white within, of a rough, ſomewhat pungent taſte, and an agreeable, though faint ſmell; the ſmaller tough ſprigs are both in taſte and ſmell the ſtrongeſt. This wood is accounted a mild balſamic reſtringent; a decoction of it is in the German ephemerides dignified with the title of vegetable *aurum potabile*, and ſtrongly recommended in catarrhs, nauſea, and weakneſs of the ſtomach; for ſtrengthening the tone of the viſcera in general, and promoting the urinary ſecretion.

This is the tree which in the iſland Chio affords the reſin called *maſtich.*

LEVISTICUM [*Suec.*] *Radix, herba, ſemen.*

Ligiſticum leviſticum Lin.

Lovage; the plant, root, and ſeed.

This is a large umbelliferous plant, cultivated with us in gardens. The root nearly agrees in quality with that of angelica: the principal difference is, that the lovage root has a ſtronger ſmell, and a ſomewhat leſs pungent taſte, accompanied with a more durable ſweetneſs: the ſeeds are rather warmer than the root. Theſe ſimples, though certainly capable of being applied to uſeful purpoſes, are not at preſent regarded: neither of them is directed in extemporaneous preſcription, and they have now no place in our pharmacopœias.

LICHEN CINEREUS TERRESTRIS [*Brun.*]

Lichen caninus Lin.

Aſh-coloured ground liverwort.

This conſiſts of pretty thick digitated leaves, flat above, of a reticular texture underneath, and faſtened to the earth by ſmall fibres: the leaves when in perfection are of an aſh-colour; by age they become darker-coloured or reddiſh. It is met with on common and open heaths, where it quickly ſpreads on the ground. Dr Mead informs us, that this plant grows in all countries, and has been brought over from America along with the Peruvian bark: that it is found at all times, but ought to be gathered from autumn to winter, as being then in its freſheſt vigour.

This ſimple is ſaid to be a warm diuretic; but the taſte diſcovers in it little or no warmth. It is chiefly celebrated for its virtue in the cure of the diſorders occaſioned by the bite of a mad dog. An account of the remarkable effects in theſe caſes of a powder compoſed of the dried leaves and pepper was communicated to the Royal Society by Mr Dampier, and publiſhed in the Philoſophical Tranſactions. This powder was afterwards inſerted (in the year 1721) into the London pharmacopœia, under the title of *pulvis antilyſſus*, at the deſire of an eminent phyſician, who had great experience of its good effects. Some years after, the ſame gentleman publiſhed

liſhed and diſperſed a paper containing the method of cure, which he had in a great number of inſtances conſtantly found ſucceſsful. In this paper the directions were to the following effect: "Let the patient be "blooded to the extent of nine or "ten ounces: and afterwards take "a dram and a half of the powder "every morning faſting, for four "mornings ſucceſſively, in half a "pint of cows milk, warm. After "theſe four doſes are taken, the "patient muſt go into the cold "bath, or a cold ſpring or river, "every morning faſting for a month; "he muſt be dipt all over, but not "ſtay in (with his head above wa-"ter) longer than half a minute, if "the water be very cold: after this "he muſt go in three times a-week "for a fortnight longer." In the year 1745, the world was favoured with a new edition of the Mechanical Account of Poiſons, in which we find the ſame method of cure again recommended, as having, in a courſe of thirty years experience, never failed of ſucceſs; where it had been followed before the hydrophobia begun. It is greatly to be wiſhed, that the efficacy of this medicine in preventing theſe terrible diſorders, was proved by inconteſtible facts. Inſtances have been produced of its proving unſucceſsful; and the many examples of the fatality of the diſeaſe which continually occur, ſeem arguments either of the inefficacy of the medicine, or a ſtrange negligence in applying it. We ſhall only farther obſerve, that Boerhaave, who is in general ſufficiently liberal in the commendation of remedies, ranks this among thoſe inſignificant trifles, which whoever depends upon, will find himſelf deceived; and indeed this opinion is now ſo general, that this ſpecies of the luchen has no place in the preſent editions of our pharmacopœias, and is now rejected from moſt of the foreign ones.

LICHEN ISLANDICUS

[*Ed.*] *Herba.*

Lichen iſlandicus Lin.

Eryngo-leaved, or eatable liverwort

he leaves of this ſpecies of lichen are nearly erect, ſtiff when dry, and pliant when moiſt; irregularly divided into broad diſtant ſegments, ſmooth and ciliated at the margins. It is a native of this country. An ounce of it boiled in a pound of water, and ſtrained, yields about ſeven ounces of as thick a mucilage as one part of gum Arabic diſſolved in three parts of water. The Icelanders uſe it in diet. It is ſteeped in water to deprive it of its bitterneſs and cathartic quality, and the powder of it is made into potage with milk or water. This diet is recommended in phthiſis and ſcorbutus; and is ſaid to be very nouriſhing, antiſeptic, and gently laxative. The Edinburgh pharmacopœia, however, is the only one into which this ſpecies of lichen ſeems yet to be introduced: and we believe that few practitioners in Britain have much experience of its uſe. If it have any effect, it is probably only as a mild article of diet.

LIGNUM CAMPECHENSE

[*Lond. Ed.*]

Hæmatoxylum campechianum Lin.

Logwood, or Campeachy wood.

This wood is brought chiefly from Campeachy in the bay of Honduras. It is uſually in large logs, very compact and hard, of a red colour, and an aſtringent ſweet taſte. It has been for a long time uſed by the dyers, but not till very lately as a medicine; a decoction of it, and the extract, are in uſe in our hoſpitals, and ſaid to have proved very ſerviceable in diarrhœa. It frequently

ly tinges the ſtools, and ſometimes the urine. The extract is now received into the ſhops; and it is found to be a very uſeful aſtringent.

LIGNUM RHODIUM [*Roſs.*]
Geniſta canarienſis Lin.
Roſewood.

This wood or root is chiefly brought to us from the Canary iſlands. The writers on botany and the materia medica are much divided about the lignum rhodium, not only with regard to the plant which affords it, but likewiſe in their accounts of the drug itſelf, and have deſcribed, under this name, ſimples manifeſtly different. This confuſion ſeems to have ariſen from an opinion that the rhodium and aſpalathus (an article of conſiderable eſteem among the ancients, but with regard to which the moderns are very much at a loſs) are the ſame; whence different woods brought into Europe for the unknown aſpalathus were ſold again by the name of rhodium.

In thoſe modern pharmacopœias which admit the lignum rhodium, different Linnæan names are at preſent given to it: Thus the authors of the Diſpenſatorium Brunſvicenne ſuppoſe it to be the rhodiola roſa of Linnæus; and they may perhaps be as near the truth as the authors of the Pharmacopœia Roſſica.

As to aſpalathus, the ancients themſelves diſagree; Dioſcorides meaning by this appellation the wood of a certain ſhrub freed from the bark, and Galen the bark of a root. At preſent we have nothing under this name in the ſhops. What was heretofore ſold among us as aſpalathus, were pieces of a pale coloured wood brought from the Eaſt Indies, and more commonly called *calambour.*

The aſpalathus, calambour, and lignum aquilæ, are ſuppoſed to be woods of the nature of agallochum, or lignum aloes, but weaker in quality.

The lignum rhodium of the ſhops is uſually in long crooked pieces, full of knots, which when cut appear of a yellow colour like box, with a reddiſh caſt: the largeſt, ſmootheſt, moſt compact, and deepeſt coloured pieces, ſhould be choſen; and the ſmall, thin, or pale ones rejected. The taſte of this wood is lightly bitteriſh, and ſomewhat pungent; its ſmell very fragrant, reſembling that of roſes: long kept, it ſeems to loſe its ſmell; but on cutting, or rubbing one piece againſt the other, it ſmells as well as at firſt. Diſtilled with water, it yields an odoriferous eſſential oil, in very ſmall quantity. Rhodium is at preſent in eſteem only upon account of its oil, which is employed as an high and agreeable perfume in ſcenting pomatums and the like. But if we may reaſon from analogy, this odoriferous ſimple might be advantageouſly applied to more uſeful purpoſes; a tincture of it in rectified ſpirit of wine, which contains in ſmall volume the virtue of a conſiderable deal of the wood, bids fair to prove a ſerviceable cordial, not inferior perhaps to any thing of this kind.

LIGUSTICUM, vide LEVISTICUM.

LILIUM ALBUM [*Ed.*] *Radix.*
Lilium candidum Lin.
White lilly; the root.

This is cultivated in gardens, more for the beauty of its flowers than medicinal uſe. The mucilaginous root is uſed by ſome in form of poultice; but it poſſeſſes no advantage over the poultices formed of vegetable farinæ.

LILIUM CONVALLIUM [*Suec.*] *Flores.*

Convallaria maialis Lin.

Lilly of the valley, or May lilly; the flowers.

This plant grows wild in great abundance in woods and ſhady places, flowering in May. The flowers are ſaid to be cephalic and nervine. They have a pleaſant ſweet ſmell, which they impart by infuſion to expreſſed oils, and give over in diſtillation both to water and ſpirit; but no eſſential oil has been hitherto obtained from them. Etmuller ſays, that the diſtilled ſpirit is more fragrant than the water. The roots of the wild lilly are very bitter: when dried they are ſaid to prove a gentle errhine; as are alſo the flowers

LIMON [*Lond. Ed.*] *Succus, cortex exterior, et oleum vulgo eſſentia dictum.*

Citrus medica Lin.

Lemon; the juice, outer rind, and its oil or eſſence.

The juice of lemons is ſimilar in quality to that of oranges, from which it differs little otherwiſe than in being more acid. The yellow peel is an elegant aromatic, and is frequently employed in ſtomachic tinctures and infuſions: it is conſiderably leſs hot than orange peel, and yields in diſtillation with water a leſs quantity of eſſential oil: its flavour is neverthelefs more periſhable, yet does not ariſe ſo readily with ſpirit of wine; for a ſpirituous extract made from lemon peel poſſeſſes the aromatic taſte and ſmell of the ſubject in much greater perfection than an extract prepared in the ſame manner from the peels of oranges. In the ſhops, a ſyrup is prepared from the juice, and the peel is candied; the peel is an ingredient in the bitter infuſions and wines; the eſſential oil enters the volatile aromatic ſpirit, or ſpiritus amoniæ compoſitus, as it is now called, and ſome other formulæ.

LINARIA [*Suec.*] *Folia.*

Antirrhinum linare Lin.

Toad-flax; the leaves.

This grows wild upon banks and about the ſides of fields. It is ſaid by ſome to be a powerful diuretic, whence it is named by Tragus *herba urinalis*; by others, to be a ſtrong cathartic, inſomuch that Brunfelſius has called it by a German name expreſſing this quality, *ſcheiſskraut.* Experience ſcarcely warrants either of theſe appellations; nor does common practice take any notice of the plant.

LINGUA CERVINA [*Brun.*]

Aſplenium ſcolopendrium Lin.

Harts-tongue: the leaves.

This plant conſiſts of a number of long narrow leaves, without any ſtalk: it grows upon rocks and old walls, and remains green all the year. The leaves have a roughiſh, ſomewhat mucilaginous taſte, like that of the maidenhair, but more diſagreeable. They are recommended in obſtructions of the viſcera, and for ſtrengthening their tone; and have ſometimes been made uſe of for theſe intentions, either alone, or in conjunction with maidenhair, or the other plants called *capillary.*

LINUM CATHARTICUM [*Roſs.*] *Herba.*

Linum catharticum Lin.

Purging flax; the leaves.

This is a very ſmall plant, not above four or five inches high, found wild upon chalky hills and in dry paſture-grounds. Its virtue is expreſſed in its title: an infuſion in water or whey of a handful of the freſh leaves, or a dram of them in ſubſtance when dried, are ſaid to purge without inconvenience.

LI-

LINUM SATIVUM [*Lond. Ed.*] *Semen.*

Linum usitatissimum Lin.

Linseed.

Linseed yields to the press a considerable quantity of oil; and boiled in water, a strong mucilage: these are occasionally made use of for the same purposes as other substances of that class; and sometimes the seeds themselves in emollient and maturating cataplasms They have also been employed in Asia, and, in times of scarcity, in Europe, as food; but are not agreeable, or in general wholesome. Tragus relates, that those who fed on these in Zealand, had the hypochondres much distended, and the face and other parts swelled, in a very short time; and that not a few died of these complaints The expressed oil is an officinal preparation.

LIQUIDAMBRA [*Brun.*] *Resina.*

Liquidambra styraciflua Lin.

Liquidamber.

This is a resinous juice which flows from a large tree growing in Virginia, Mexico, and other provinces of America. This juice is at first about the consistence of turpentine, but by long keeping hardens into a resin: it is of a yellow colour inclining to red, a warm taste, and a fragrant smell, not unlike that of storax heightened with a little ambergris. It was formerly of great use as a perfume, but is at present a stranger to the shops.

LITHARGYRUS [*Ed.*]

Litharge.

This is a preparation of lead, usually in form of soft flakes, of a yellowish reddish colour. If calcined lead be urged with a hasty fire, it melts into the appearance of oil, and on cooling concretes into litharge. Greatest part of the litharge met with in the shops, is produced in the purification of silver from lead, and the refining of gold and silver by means of this metal: according to the degree of fire and other circumstances, it proves of a pale or deep colour; the first has been commonly called litharge of silver, the other litharge of gold.

LITHOSPERMUM [*Brun.*] *Semen.*

Lithospermum officinale Lin.

Gromwell; the seed.

This is found wild in dry fields and hedges. Its seeds are roundish, hard, of a whitish colour, like little pearls; and from these circumstances have been supposed peculiarly serviceable in calculous disorders. Their taste is merely farinaceous.

LOBELIA [*Ed.*] *Radix.*

Lobelia siphilitica Lin.

Lobelia; the root.

This plant grows in moist places in Virginia, and bears our winters. It is perennial, has an erect stalk three or four feet high, blue flowers, a milky juice, and a rank smell. The root consists of white fibres about two inches long, resembles tobacco in taste, which remains on the tongue, and is apt to excite vomiting. It is used by the North American Indians as a specific in the venereal disease. The form is that of decoction; the dose of which is ordered to be gradually increased till it bring on very considerable purging, then to be intermitted for a little, and again used in a more moderate degree till the cure be completed. The ulcers are also washed with the decoction, and the Indians are said to sprinkle them with the powder of the inner bark of the spruce tree. The same strictness of regimen is ordered as during a salivation or mercurial course. The benefit to be derived from this article

article has not, as far as we know, been confirmed either in Britain or by the practitioners in Virginia: for there, as well as in this country, recourse is almost universally had to the use of mercury; and it is probably from this reason that the London college have not received it into their list. It however seems to be an article which, in some cases at least, deserves a trial.

LUJULA [*Lond.*] *Folium.*
Oxalis acetosella Lin.
Wood sorrel; the leaves.

This is a small plant, growing wild in woods. In taste and medical qualities, it is similar to the common sorrel, but considerably more grateful, and hence is preferred by the London college. Boiled with milk, it forms an agreeable whey; and beaten with sugar, a very elegant conserve, which has been for some time kept in the shops, and not unfrequently employed.

LUPINUS [*Brun.*] *Semen.*
Lupinus albus Lin.
White lupines; the seeds.

These have a leguminous taste, accompanied with a disagreeable bitter one They are said to be anthelmintic, both internally taken and applied externally. Caspar Hoffman cautions against their external use, and tells us (from one of the Arabian writers) that they have sometimes occasioned death. Simon Pauli also says, that he saw a boy of eight or ten years of age, after taking a dram of these seeds in powder, seized with exquisite pains of the abdomen, a difficulty of respiration, and almost total loss of voice; and that he was relieved from these complaints by a glyster of milk and sugar, which brought away a vast quantity of worms But Mr Geoffroy observes, very justly, that either these symptoms were owing to the worms, and not to the medicine; or that these seeds, if they have any noxious quality, lose it, with their bitterness, in boiling; since they were commonly used among the Greeks as food, and recommended by Galen as very wholesome.

LUPULUS [*Succ.*] *Strobuli.*
Humulus lupulus Lin.
Hops; the leafy heads.

These are one of the most agreeable of the strong bitters. though rarely employed for any medicinal purposes. Their principal consumption is in malt liquors, which they render less glutinous, and dispose to pass off more freely by urine.

The odour of hops hung in a bed has been said to induce sleep after opium had failed.

Hops contain a very considerable proportion of essential oil; and in the manner in which they are commonly used in brewing, this has been hitherto almost entirely lost: but of late a proposal has been made for preserving it as it arises, and restoring it to the brewed liquor, a discovery well meriting the public attention.

LYCOPERDON [*Brun.*]
Lycoperdon bovista Lin.
Puff ball, or dusty mushroom.

This fungus is found in dry pasture grounds. It seems to be nearly of the same quality with the agaric of the oak; and has, like it, been employed for restraining external hæmorrhagies and other fluxions. The fine dust, with which it becomes filled by age, has been applied also with the same intentions.

MACIS [*Succ.*] *Involucrum nucis moschatæ.*
Myristica moschata Lin.
Mace.

Mace

Mace is one of the coverings of the nutmeg. This spice, considered as the subject both of medicine and of pharmacy, agrees nearly with the nutmeg. The principal difference is, that mace is somewhat less astringent, yields to the press a more fluid oil, and in distillation a more volatile one: what is called in the shops expressed oil of mace, is prepared not from this spice, but from the nutmeg. Mace was formerly an ingredient in the officinal steel-wine; and the expressed oil is still an ingredient in the stomachic and cephalic plasters, which are now more properly styled the *Emplastrum Ladani*, and *Emplastrum picis Burgundicæ*.

MAJORANA [*Lond. Ed.*] *Herba.*

Origanum majorana Lin.

Sweet marjoram; the leaves.

Marjoram is raised annually in our gardens for culinary as well as medicinal uses; the seeds are commonly procured from the southern parts of France, where the plant grows wild. It is a moderately warm aromatic, yielding its virtues both to aqueous and spirituous liquors by infusion, and to water in distillation It is principally celebrated in disorders of the head and nerves, and in the humoural asthmas and catarrhs of old people. An essential oil of the herb is kept in the shops The powder of the leaves proves an agreeable errhine, and enters the officinal sternutatory powder.

MALABATHRUM [*Brun.*] *Folium.*

Indian leaf.

This leaf is of a green colour, firm texture, very smooth on one side, less so on the other, on which run three remarkable ribs through its whole length. It is conjectured to be the leaf of a tree which is a variety of the laurus cinnamomum of Linnæus. Lemery and Pomet affirm, that these leaves have no perceptible smell or taste; Herman and others, that they have a very great share of both: those met with in our shops have little or no smell till they are well rubbed, when they emit an agreeable spicy odour: on chewing, they are found extremely mucilaginous. This drug was formerly used in medicine as an ingredient in the mithridate and theriaca: It is, even when in its greatest perfection, much inferior to the mace, which has been directed as a succedaneum to it.

MALVA [*Lon. Ed.*] *Folium, flos.*

Malva sylvestris Lin.

Mallow; the leaf and flower.

These have a somewhat mucilaginous sweetish taste. The leaves are ranked the first of the four emollient herbs: they were formerly of some esteem, in food, for loosening the belly; at present, decoctions of them are sometimes employed in dysenteries, heat, and sharpness of urine, and in general for obtunding acrimonious humours: their principal use is in emollient glysters, cataplasms, and fomentations. The leaves enter the officinal decoction for glysters, and a conserve was formerly prepared from the flowers.

MANDRAGORA [*Suec.*] *Radix.*

Atropa mandragora Lin.

Mandrake; the root.

The qualities of this plant are very doubtful: it has a strong disagreeable smell, resembling that of the narcotic herbs, to which class it is usually referred; and it belongs indeed to the same genus even with the deadly night shade. It has rarely been any otherwise made use of in medicine than as an ingredient in one of the old officinal unguents. Both that composition and the plant

itſelf are now rejected from our pharmacopœias; but it ſtill retains a place in moſt of the foreign ones, and may perhaps be conſidered as deſerving farther attention.

MANNA [*Lond. Ed.*] *Succus concretus.*

Fraxinus ornus Lin.

Manna.

Manna is the juice of certain trees of the aſh kind, growing in Italy and Sicily. When naturally concreted on the plants and ſcraped off, it is called manna in the tear; but if allowed to exude on ſtraws or chips of wood faſtened to the tree, it is called canulated or flaky manna. The common, or fat manna, is got by inciſions made after the ſpontaneous exudation is over, and is in larger maſſes and of a redder colour. The beſt Calabrian manna is in oblong, light, friable pieces or flakes, of a whitiſh or pale yellow colour, and ſomewhat tranſparent. The inferior kinds are moiſt, unctuous, and dark coloured. Manna is ſaid to be ſometimes counterfeited by a compoſition of ſugar and honey, mixed with a little ſcammony: there is alſo a factitious manna, which is white and dry, ſaid to be compoſed of ſugar, manna, and ſome purgative ingredient, boiled to a proper conſiſtence; this may be diſtinguiſhed by its weight, ſolidity, untranſparent whiteneſs, and by its taſte, which is different from that of manna.

Manna is a mild, agreeable laxative, and may be given with ſafety to children and pregnant women: nevertheleſs in ſome particular conſtitutions, it acts very unkindly, producing flatulencies and diſtention of the viſcera; theſe inconveniences may be prevented by the addition of any grateful warm aromatic. Manna operates ſo weakly as not to produce the full effect of a cathartic, unleſs taken in large doſes; and hence it is rarely given with this intention by itſelf. It may be commodiouſly diſſolved in the purging mineral waters, or joined to the cathartic ſalts, ſena, rhubarb, or the like. Geoffroy recommends acuating it with a few grains of emetic tartar: the mixture is to be divided into ſeveral doſes, each containing one grain of the emetic tartar: by this management, he ſays, bilious ſerum will be plentifully evacuated, without any nauſea, gripes, or other inconvenience. It is remarkable, that the efficacy of this drug is greatly promoted (if the account of Valliſnieri is to be relied on) by a ſubſtance which is itſelf very ſlow of operation, caſſia. And for this reaſon manna is an ingredient in the electary of caſſia.

MARRUBIUM [*Lond. Ed.*] *Herba.*

Marrubium vulgare Lin.

White horehound; the leaves.

Theſe have a very ſtrong, not diſagreeable ſmell, and a roughiſh very bitter taſte. Beſides the virtues which they poſſeſs in common with other ſtrong bitters, they are ſuppoſed to be peculiarly ſerviceable in humoural aſthmas and coughs, the yellow jaundice proceeding from a viſcidity of the bile, and other chronical diſorders. They are doubtleſs an uſeful aperient and deobſtruent, they promote the fluid ſecretions in general, and liberally taken looſen the belly.

MARUM SYRIACUM [*Lond.*] *Herba.*

Teucrium marum Lin.

Syrian herb maſtich.

This is a ſmall ſhrubby plant, growing ſpontaneouſly in Syria, Candy, and other warm climates, and cultivated with us in gardens. The leaves have an aromatic bitteriſh taſte; and when rubbed betwixt the fingers, a quick pungent ſmell, which

which ſoon affects the head, and occaſions ſneezing: diſtilled with water, they yield a very acrid, penetrating eſſential oil, reſembling one obtained by the ſame means from ſcurvy-graſs. Theſe qualities ſufficiently point out the uſes to which this plant might be applied; at preſent it is little otherwiſe employed than in cephalic ſnuffs. It is an ingredient in the *pulvis ſternutatorius* of the London pharmacopœia, or *pulvis aſari compoſitus*.

MARS SACCHARATUS [*Ed.*]

Steel comfits.

This article is chiefly made by the confectioner; and, though little uſed, has got a place, as being occaſionally convenient on account of its ſweet taſte; and it is ſometimes uſed with advantage where chalybeates are indicated.

A ſolution of two parts of fine ſugar in water boiled to a candy conſiſtence, is gradually added to one part of purified iron filings, in a veſſel hung over a very gentle fire, and conſtantly ſhaken, that the filings may be cruſted over with the ſugar. Starch is previouſly added, in the proportion of a dram to a pound, to prevent the comfit from running into lumps.

MASTICHE [*Lon. Ed.*] *Reſina.*

Piſtacia lentiſcus Lin.

Gum maſtich.

Maſtich is a reſinous ſubſtance brought from Chio, in ſmall, yellowiſh, tranſparent grains or tears, of an agreeable ſmell, eſpecially when heated or ſet on fire. This reſin is recommended in old coughs, dyſenteries, hæmoptoes, weakneſs of the ſtomach, and in general in all debilities and laxity of the fibres. Geoffroy directs an aqueous decoction of it to be uſed for theſe purpoſes: but water extracts little or nothing from this reſin; rectified ſpirit almoſt entirely diſſolves it: the ſolution taſtes very warm and pungent; it is not however the baſis of any fixed formula in our pharmacopœias, and is at preſent but little employed.

MATRICARIA [*Suec.*] *Herba.*

Matricaria parthenium Lin.

Common wild featherfew; the leaves.

This plant was at one time much celebrated as an antihyſteric medicine; but it is now ſo little employed in Britain, that it has no place in our pharmacopœias.

Simon Pauli relates, that he has experienced moſt happy effects from it in obſtructions of the uterine evacuations; I have often ſeen, ſays he, from the uſe of a decoction of matricaria and chamomile flowers with a little mugwort, hyſteric complaints inſtantly relieved, the diſcharge ſucceed plentifully, and the patient, from a lethargic ſtate, return as it were into life again. Matricaria is likewiſe recommended in ſundry other diſorders, as a warm ſtimulating bitter: all that bitters and carminatives can do, ſays Geoffroy, may be expected from this. It is undoubtedly a medicine of ſome uſe in theſe caſes, though not perhaps equal to chamomile flowers alone, with which the matricaria agrees in ſenſible qualities, excepting in being weaker.

MECHOACANNA [*Brun.*] *Radix.*

Convolvulus mechoacanna Lin.

Mechoacan; the root.

This is the root of an American convolvulus brought from Mechoacan, a province of Mexico, in thin ſlices like jalap, but larger, and of a whitiſh colour. It was firſt introduced into Europe about the year 1524, as a purgative univerſally ſafe, and capable of evacuating all morbific

bific humours from the moſt remote parts of the body: but as ſoon as jalap became known, Mechoacan gradually loſt its reputation, which it has never ſince been able to retrieve. It is nevertheleſs by ſome ſtill deemed an uſeful cathartic; it has very little ſmell or taſte, and is not apt to offend the ſtomach; its operation is ſlow, but effectual and ſafe. Geoffroy affirms, that there is ſcarce any purgative accompanied with fewer inconveniences. It ſeems to differ from jalap only in being weaker; the reſins obtained from both have nearly the ſame qualities, but jalap yields five or ſix times as much as Mechoacan; hence it is found neceſſary to exhibit the latter in ſix times the doſe of the former, to produce the ſame effects.

MEL [*Lond.*]
Honey.

Honey is a vegetable juice, obtained from the honey comb, either by ſeparating the combs, and laying them flat upon a ſieve, through which the honey ſpontaneouſly percolates; or by including the comb in canvas bags, and forcing the honey out by a preſs: the firſt ſort is the pureſt; the latter is found to contain a good deal of the matter of which the comb is formed, and ſundry other impurities: there is another ſort ſtill inferior to the two foregoing, obtained by heating the combs before they are put into the preſs. The beſt ſort is thick, of a whitiſh colour, an agreeable ſmell, and a very pleaſant taſte: both the colour and flavour differ according to the plants from which the bees collect it: that of Narbonne in France, where roſemary abounds, is ſaid to have a very manifeſt flavour of that plant, and to be imitable by adding to other honey an infuſion of roſemary flowers. Honey, conſidered as a medicine, is a very uſeful detergent and aperient, powerfully promoting the expectoration of tough phlegm: in ſome particular conſtitutions it has an inconvenience of griping or proving purgative; this is ſaid to be in ſome meaſure prevented, by previouſly boiling the honey: This, however, with all conſtitutions, is by no means effectual; and the circumſtance mentioned has had ſo much weight with the Edinburgh college, that they do not now employ it in any preparation, and have entirely rejected the mella medicata, ſubſtituting ſyrups in their place: but there can be no doubt that honey is very uſeful in giving form to different articles, although there be ſome individuals with whom it may diſagree. In order, however, to obtain the good effects of the honey itſelf, it muſt be uſed to a conſiderable extent, and as an article of diet.

MELAMPODIUM [*Ed.*] vide Helleborus Niger.

MELILOTUS [*Suec.*] *Flores, herba.*
Trifolium melilotus officinalis Lin.
Melilot; the leaves and flowers.

This plant grows wild in hedges and among corn; and has likewiſe, for medicinal uſes, been cultivated in gardens. The green herb has no remarkable ſmell; when dry, a pretty ſtrong one; the taſte is roughiſh, bitter, and, if long chewed, nauſeous. A decoction of this herb has been recommended in inflammations of the abdomen; and a decoction of the flowers in the fluor albus. But modern practice rarely employs it any otherwiſe than in emollient and carminative glyſters, and in fomentations, cataplaſms, and the like; and even in theſe not often. It formerly gave name to one of the officinal plaſters, which received from the melilot a green colour, but no particular virtue.

ME-

MELISSA [*Lond. Ed.*] *Folia.*
Melissa officinalis Lin.
Balm; the herb.

This plant, when in perfection, has a pleasant smell, somewhat of the lemon kind; and a weak roughish aromatic taste. The young shoots have the strongest flavour; the flowers, and the herb itself when old, or produced in very moist rich soils or rainy seasons, are much weaker both in smell and taste. Balm is appropriated by the writers on the Materia Medica, to the head, stomach, and uterus; and in all disorders of these parts is supposed to do extraordinary service. So high an opinion have some of the chemists entertained of balm, that they have expected to find in it a medicine which should prolong life beyond the usual period. The present practice however holds it in no great esteem, and ranks it, where it certainly deserves to be, among the weaker corroborants: in distillation it yields an elegant essential oil, but in very small quantity; the remaining decoction tastes roughish. Strong infusions of the herb, drank as tea, and continued for some time, have done service in a weak lax state of the viscera: these liquors, lightly acidulated with juice of lemons, turn of a fine reddish colour, and prove an useful, and to many a very grateful drink, in dry parching fevers.

MELO [*Gen.*] *Semina.*
Cucumis melo Lin.
Melon: the seeds.

These stand among the four greater cold seeds. They have been sometimes used, with the others of that class, as cooling and emollient; but are at present little taken notice of.

MENTHA PIPERITIS [*Lond. Ed.*] *Herba.*
Mentha piperita Lin.
Peppermint; the leaves.

This species of mint grows wild in some parts of England, in moist watery places, but is much less common than the other sorts. The leaves have a more penetrating smell than any of the other mints, and a much warmer, pungent, glowing taste like pepper, sinking as it were into the tongue. The principal use of this herb is in flatulent colics, languors, and other similar disorders: it seems to act as soon as taken, and extend its effects through the whole system, instantly communicating a glowing warmth. Water extracts the whole of the pungency of this herb by infusion, and elevates it in distillation. Its officinal preparations are an essential oil, a simple water, and a spirit.

MENTHA SATIVA [*Lond. Ed.*] *Herba.*
Mentha spicata. Hudf. Lond.
Mentha viridis Lin. Ed.
Garden or spear mint; the leaves.

The leaves of this mint have a warm, roughish, somewhat bitterish taste; and a strong, not unpleasant, aromatic smell. Their virtues are those of a warm stomachic and carminative: in loss of appetite, nausea, continual retchings to vomit, and, as Boerhaave expresses it, almost paralytic weaknesses of the stomach, there are few simples perhaps of equal efficacy. In colic pains, the gripes to which children are subject, lienteries, and other kinds of immoderate fluxes, this plant frequently does good service. It likewise proves beneficial in hysteric cases, and affords an useful cordial in languors and other weaknesses consequent upon delivery.

The best preparations for these purposes are, a strong infusion made from the dry leaves in water (which is much superior to one from the green herb), or rather a tincture or extract prepared with rectified spirit.

rit. These possess the whole virtues of the mint: the essential oil and distilled water contain only the aromatic part; the expressed juice only the astringency and bitterishness, together with the mucilaginous substance common to all vegetables. The essential oil, a simple water, a spirit, and a conserve, are kept in the shops.

MENYANTHES, vide TRIFOLIUM.

MERCURIALIS [*Gen.*] *Herba.*

Mercurialis annua Lin.

Herb mercury; the leaves.

These stand among the five emollient herbs; and with this intention are sometimes made use of in glysters. A syrup made from the leaves, given in the dose of two ounces, is said to prove a mild and useful laxative.

There is another sort of mercurialis growing in woods and hedges, which, though recommended by some botanic writers as having the same virtues with the foregoing, and as being more palatable, has been found possessed of noxious qualities. This may be distinguished from the foregoing, by its being a perennial plant, *Mercurialis perennis Lin.* by being larger, having its leaves rough, and the stalk not at all branched; it is commonly called dog's mercury.

MERCURIUS, vide HYDRARGYRUS.

MESPILA. *Fructus mespili vulgaris J. B.*

Mespili Germanici Lin.

The medlar tree; its fruit.

Medlars are scarce ever made use of for any medicinal purposes. They have a very austere astringent taste, insomuch as not to be eatable until mellowed by keeping.

MEUM [*Brun.*] *Radix.*

Æthusa meum Lin.

Spignel; the root.

Spignel is an umbelliferous plant, found wild in Italy and the warmer parts of Europe, and sometimes also in England. The roots have a pleasant aromatic smell, and a warm pungent bitterish taste: in virtue they are similar to the levisticum, from which this root seems to differ only in being weaker and somewhat more agreeable. It is an useful aromatic and carminative, though at present so little regarded as to have no place in our pharmacopœias.

MEZEREUM [*Lond. Ed.*] *Cortex radicis.*

Daphne mezereum Lin.

Mezereon, or spurge-olive; the bark of the root.

Mezereon, although an article of great activity, has only of late had a place in our pharmacopœias. It is a native of different parts of Europe; it has elegant pale purplish or white flowers, sometimes appearing about the end of January. The root was long used in the Lisbon diet-drink, for venereal complaints, particularly nodes and other symptoms resisting the use of mercury; but with the composition of this article we were unacquainted, till an account of it was published in the Edinburgh Physical Essays, by Dr Donald Monro of London.

On chewing it a little, it proves very pungent, and its acrimony is accumulated about the fauces, and is very durable. It is employed chiefly under the form of decoction; and it enters the decoctum sarsaparillæ compositum of the London college; but it has also been used in powder combined with some inactive one, as that of liquorice root. It is apt to occasion vomiting and purging; so must be begun in grain-doses and gradually increased. It is often usefully combined with mercury.

The bark of the root contains moſt acrimony, though ſome prefer the woody part. Mezereon has alſo been uſed with good effects in tumours and cutaneous eruptions not venereal.

MILLEFOLIUM [*Ed.*] *Folia, flores.*
Achillea millefolium Lin.
Milfoil; the leaves and flowers.

This grows plentifully about the ſides of fields, and on dry commons, flowering greateſt part of the ſummer. The leaves have a rough bitteriſh taſte, and a faint aromatic ſmell. Their virtues are thoſe of a very mild aſtringent; and as ſuch they ſtand recommended in hæmorrhagies both internal and external, in diarrhœas, debility, and laxity of the fibres, and likewiſe in ſpaſmodic and hyſterical affections. In theſe caſes, ſome of the Germans have a very high opinion of this herb, particularly Stahl, who eſteemed it a very effectual aſtringent, and one of the moſt certain tonics and ſedatives. Its virtues are extracted in great perfection by proof ſpirit; water takes up its aſtringency and bitterneſs, but little of its aromatic flavour; tinctures made in rectified ſpirit contain both, though they be rather weaker than thoſe in proof ſpirit.

The flowers of milfoil are conſiderably ſtronger in aromatic flavour than the leaves; in diſtillation, they yield a ſmall quantity of eſſential oil, of an elegant blue colour.

The roots, taken up in the ſpring, have an agreeable, warm, pungent taſte. Dr Grew reſembles them to contrayerva, and imagines they might in ſome degree ſupply its place: this, however, is much to be doubted, ſince there is ſuch a remarkable difference between the two, that whilſt one retains its taſte for a length of time after it has been brought to us from America, the taſte of the other is almoſt loſt by drying.

MILLEPEDA [*Lond. Ed.*]
Oniſcus aſſellus Lin.
Slaters.

Theſe inſects are found in cellars, under ſtones, and in cold moiſt places: in the warmer countries they are rarely met with. Millepedes have a faint diſagreeable ſmell, and a ſomewhat pungent, ſweetiſh, nauſeous taſte. They have been highly celebrated in ſuppreſſions of urine, in all kinds of obſtructions of the bowels, in the jaundice, weakneſs of ſight, and a variety of other diſorders. Whether they have any juſt title to theſe virtues, is greatly to be doubted: thus much is certain, that their real effects come far ſhort of the character uſually given of them. Their officinal preparations are, the millepedes dried and powdered, and a vinous infuſion, which is by ſome held in high eſteem in caſes of hooping cough.

MINIUM [*Lond.*] Red lead; lead calcined to redneſs. See the article PLUMBUM.

MORSUS DIABOLI [*Brun.*]
Radix, folia.
Scabioſa ſucciſſa Lin.
Devil's bit; the leaves and roots.

Theſe ſtand recommended as alexipharmacs, but they have long given place to medicines of greater efficacy.

MORUM [*Lond.*] *Fructus.*
Morus nigra Lin.
Mulberry; the fruit.

This tree is commonly cultivated on account of its fruit, which is rather eaten for pleaſure than uſed as a medicine; it has the common qualities of the other ſweet fruits, abating heat, quenching thirſt, and promoting the groſſer ſecretions; an agreeable ſyrup made from the juice is

is kept in the ſhops. The bark of the roots has been in conſiderable eſteem as a vermifuge; its taſte is bitter, and ſomewhat aſtringent.

MOSCHUS [*Lond. Ed.*]
Moſchus moſchiferus Lin.
Muſk.

Muſk is a grumous ſubſtance like clotted blood, found in a little bag, ſituated near the umbilical region of a particular kind of animal met with in China, Tartary, and the Eaſt-Indies: the beſt muſk is brought from Tonquin, an inferior ſort from Angria and Bengal, and a ſtill worſe from Ruſſia.

Fine muſk comes to us in round thin bladders; which are generally about the ſize of a pigeon's egg, covered with ſhort brown hairs, well filled, and without any appearance of having been opened. The muſk itſelf is dry, with a kind of unctuoſity, of a dark reddiſh brown, or ruſty blackiſh colour, in ſmall round grains, with very few hard black clots, and perfectly free from any ſandy or other viſible foreign matter. If chewed, and rubbed with a knife on paper, it looks ſmooth, bright, yellowiſh, and free from grittineſs. Laid on a red-hot iron, it catches flame, and burns almoſt entirely away, leaving only an exceeding ſmall quantity of light greyiſh aſhes; if any earthy ſubſtances have been mixed with the muſk, the quantity of the reſiduum will readily diſcover them.

Muſk has a bitteriſh ſubacrid taſte; a fragrant ſmell; agreeable at a diſtance, but when ſmelt near to, ſo ſtrong as to be diſagreeable, unleſs weakened by the admixture of other ſubſtances. If a ſmall quantity be infuſed in ſpirit of wine in the cold for a few days, it imparts a deep, but not red tincture: this, though it diſcovers no great ſmell of the muſk, is nevertheleſs ſtrongly impregnated with its virtues; a ſingle drop of it communicates to a whole quart of wine a rich muſky flavour. The degree of flavour which a tincture drawn from a known quantity of muſk, communicates to vinous liquors, is perhaps one of the beſt criteria for judging of the goodneſs of this commodity. Neumann informs us, that ſpirit of wine diſſolves ten parts out of thirty of muſk, and that water takes up twelve; that water elevates its ſmell in diſtillation, whilſt pure ſpirit brings over nothing.

Muſk is a medicine of great eſteem in the eaſtern countries: among us, it has been for ſome time pretty much out of uſe, even as a perfume. It appears, however, from late experience, to be, when properly managed, a remedy of good ſervice even againſt thoſe diſorders which it has been ſuppoſed to produce. Dr Wall has communicated (in the Philoſophical Tranſactions, n° 474), an account of ſome extraordinary effects of muſk in convulſive and other diſeaſes, which have too often baffled the force of medicine. He obſerves, that the ſmell of perfumes is often of diſſervice, where the ſubſtance taken inwardly, and in conſiderable quantity, produces the happieſt effects. that two perſons, labouring under a ſubſultus tendinum, extreme anxiety, and want of ſleep, from the bite of a mad dog, by taking two doſes of muſk, each of which was ſixteen grains, were perfectly relieved from their complaints. He likewiſe obſerves, that convulſive hiccups, attended with the worſt ſymptoms, were removed by a doſe or two, of ten grains: and that in ſome caſes, where this medicine could not, on account of ſtrong convulſions, be adminiſtered to the patient by the mouth, it proved of ſervice when injected as a glyſter. He likewiſe adds, that under the quantity of ſix grains, he never found much effect from it; but that, taken

taken to ten grains and upwards, it never fails to produce a mild diaphoresis, without at all heating or giving any uneasiness; that on the contrary, it eases pain, raises the spirits, and that after the sweat breaks out the patient usually falls into a refreshing sleep; that he never met with any hysterical person, how averse soever to perfumes, but could take it in the form of a bolus, without inconvenience. To this paper is annexed an account of some farther extraordinary effects of musk, observed by another gentleman. Repeated experience has since confirmed its efficacy in these disorders. The dose has sometimes been increased, particularly in convulsive disorders, to the quantity of a scruple or half a dram every three or four hours, with two or three spoonfuls of the musk julep between. The julep is the only officinal preparation of it. It is combined with opium in tetanus, and with mercury in rabies canina.

It is not improbable, that we are often disappointed of the good effects which this medicine might produce, from the musk with which the shops are supplied being previously adulterated.

MYROBALANI.

Myrobalans, dried fruits brought from the East Indies; their outward part freed from the stone.

Five kinds of myrobalans were formerly directed as officinals: all of them are supposed to be the produce of the same tree, but its botanical description is not yet ascertained.

All the myrobalans have a low degree of purgative virtue. They have also an astringent quality, discoverable by the taste, from their use among the Indians for tanning leather, and from their striking a black colour with chalybeate solutions: in consequence of this, they are supposed to strengthen the bowels after their operation as a cathartic is over. Nevertheless their purgative virtue is so inconsiderable, that practitioners have for a long time laid them entirely aside with that intention; and the college of Edinburgh, as well as that of London, has now rejected them from the catalogue of officinal simples.

MYRRHA [*Lond. Ed.*] *Gummi resina.*

Myrrh; gum resin.

Myrrh is a concrete gummy resinous juice brought from the East-Indies, in glebes or drops, of various colours and magnitudes. The best sort is of a brown or reddish yellow colour, somewhat transparent; of a lightly pungent, bitter taste, with an aromatic flavour, though not sufficient to prevent its proving nauseous to the palate; and a strong, not disagreeable smell. The medical effects of this aromatic bitter are to warm and strengthen the viscera: it frequently occasions a mild diaphoresis, and promotes the fluid secretions in general.

Hence it proves serviceable in languid cases, diseases arising from a simple inactivity, those female disorders which proceed from a cold, mucous, sluggish indisposition of the humours, suppressions of the uterine discharges, cachectic disorders, and where the lungs and thorax are oppressed by viscid phlegm. Myrrh is likewise supposed in a peculiar manner to resist putrefaction in all parts of the body; and in this light stands recommended in malignant, putrid, and pestilential fevers, and in the small-pox; in which last it is said to accelerate the eruption.

The present practice does not seem to expect any peculiar virtue from myrrh; and it is now perhaps less employed than formerly. Some late writers

writers, however, and particularly Dr Simmons, in his Treatise on Consumptions, have bestowed very high encomiums upon it, even in cases of tuberculous phthisis; and although it can by no means be represented as a remedy much to be depended upon, yet there is reason to believe that it has been serviceable in some cases.

Rectified spirit extracts the fine aromatic flavour and bitterness of this drug, and does not elevate any thing of either in evaporation: the gummy substance left by this menstruum has a disagreeable taste, with scarce any thing of the peculiar flavour of the myrrh: this part dissolves in water, except some impurities which remain. In distillation with water, a considerable quantity of a ponderous essential oil arises, resembling in flavour the original drug. Myrrh is the basis of an officinal tincture. It enters the pilulæ ex aloe et myrrha, the pilulæ e gummi, and pilulæ stomachicæ, and some other formulæ. But for obtaining its full effects, it must be given in doses of half a dram or upwards; and it is thought to be advantageously united with a proportion of nitre, cream of tartar, or some other refrigerant salt.

MYRTUS [*Brun.*] *Baccæ.*
Myrtus communis Lin.
Myrtle; the berries.

This is an evergreen shrub, growing in Italy, and cultivated in our botanic gardens. The leaves and berries have been sometimes made use of as astringents, but not at present regarded.

NAPUS [*Brun.*] *Semen.*
Brassica napus Lin.
Sweet navew, or navew gentle; the seeds.

This is a sort of turnip, sown in some of our gardens for culinary use: the roots are warmer than the common turnip. The seeds have a bitterish taste, accompanied with a faint aromative flavour: abundance of virtues have been ascribed to them, as attenuating, detergent, alexipharmac, and others; at present they are hardly employed in medicine.

NARDUS INDICA [*Brun.*] *Radix.*
Andropogon nardus Lin.
Indian nard, or spikenard.

This root, brought from the East-Indies, is a congeries of small fibres issuing from one head, and matted close together, so as to form a bunch about the size of the finger, with some small strings at the opposite end of the head. The matted fibres (which are the parts chosen for medicinal purposes) are supposed by some to be the head or spike of the plant, by others the root: they seem rather to be the remains of the withered stalks, or the ribs of the leaves: sometimes entire leaves and pieces of stalks are found among them: we likewise now and then meet with a number of these bunches issuing from one root.

Spikenard has a warm, pungent, bitterish taste; and a strong, not very agreeable, smell. It is stomachic and carminative; and said to be alexipharmac, diuretic, and emmenagogue; but at present it is very little employed.

NASTURTIUM AQUATICUM [*Lond. Ed.*] *Herba.*
Sisymbrium nasturtium Lin.
Water-cresses; the fresh herb.

This plant grows wild in rivulets, and the clearer standing waters; its leaves remain green all the year, but are in greatest perfection in the spring. They have a quick pungent smell (when rubbed betwixt the fingers), and an acrid taste, similar to that of *cochlearia*, but weaker. As to

to their virtues, they are among the milder aperient antiſcorbutics. Hoffman has a high opinion of this plant, and recommends it as of ſingular efficacy for accelerating the circulation, ſtrengthening the viſcera, opening obſtructions of the glands, promoting the fluid ſecretions, and purifying the blood and humours: for theſe purpoſes, the expreſſed juice, which contains the peculiar taſte and pungency of the herb, may be taken in doſes of an ounce or two, and continued for a conſiderable time. The juice is an ingredient in the *ſuccus cochlearia compoſitus* of the ſhops.

NEPETA [*Brun.*] *Folia.*
Nepeta cataria Lin.
Catmint; the leaves.

This plant is commonly cultivated in our gardens, and is ſometimes alſo found growing wild in hedges and on dry banks. It is a moderately aromatic plant, of a ſtrong ſmell, not ill reſembling a mixture of mint and pennyroyal; of the virtues of which it likewiſe participates.

NEPHRITICUM LIGNUM [*Brun.*]
Guilandina moringa Lin.
Nephritic wood.

This is an American wood, brought to us in large, compact, ponderous pieces, without knots, of a whitiſh or pale yellow colour on the outſide, and dark coloured or reddiſh within: the bark is uſually rejected. This wood imparts to water or rectified ſpirit a deep tincture; appearing, when placed between the eye and the light, of a golden colour; in other ſituations, blue: pieces of another wood are ſometimes mixed with it, which give only a yellow colour to water. The nephritic wood has ſcarce any ſmell, and very little taſte. It ſtands recommended in difficulty of urine, nephritic complaints, and all diſorders of the kidneys and urinary paſſages; and is ſaid to have this peculiar advantage, that it does not, like the warmer diuretics, heat or offend the parts. Practitioners, however, have not found theſe virtues warranted by experience.

NICOTIANA [*Lond.*] *Folium.*
Nicotiana tabacum Lin.
Tobacco; the leaves.

This plant was firſt brought into Europe about the year 1560, from the iſland Tobago in America; and is now ſometimes cultivated for medicinal uſe in our gardens; but in general imported from America in large quantities. The leaves are about two feet long, of a pale green colour whilſt freſh, and when carefully dried of a lively yellowiſh caſt. They have a ſtrong, diſagreeable ſmell, like that of the narcotic plants; and a very acrid burning taſte. Taken internally, they prove virulently cathartic and emetic, occaſioning almoſt intolerable cardialgic anxieties. By boiling in water, their virulence is abated, and at length deſtroyed: an extract made by long coction is recommended by Stahl and other German phyſicians, as a ſafe and moſt effectual aperient, expectorant, detergent, &c. but this medicine, which is extremely precarious and uncertain in ſtrength, has never come into eſteem among us. Of late, however, tobacco, under the form of a vinous or watery infuſion, and taken in ſuch ſmall doſes as to produce little effect from its action on the ſtomach, has been recommended to the attention of practitioners by Dr Fowler. He has found it to be a very uſeful and powerful diuretic, and has publiſhed many caſes of dropſy and dyſury, in which its employment has been attended with the

the beſt effects. And theſe good effects have been confirmed by the obſervations of other practitioners.

Tobaceo is ſometimes uſed externally in unguents, for deſtroying cutaneous inſects, cleanſing old ulcers, &c. Beaten into a maſh with vinegar or brandy, it has ſometimes proved ſerviceable for removing hard tumours of the hypochondres; an account is given in the Edinburgh Eſſays of two caſes of this kind cured by it.

Injections by the anus of the ſmoke or decoction have been uſed with advantage in caſes of obſtinate conſtipation threatening ileus, of incarcerated hernia, of aſcarides, of ſpaſmodic aſthma, and of perſons apparently dead from drowning or other ſudden cauſes. It has been uſed internally in form of ſyrup, conſerve, and infuſion, in caſes of worms, epilepſy, amenorrhœa, aſthma, &c. but it is certainly too active to be thus ventured on. An infuſion of its aſhes, recommended in dropſy, is not probably different from other ſuch vegetable lixivia.

There is another ſort of tobaeco found wild on dunghills in ſeveral parts of England: *Nicotiana ruſtica of Lin.* It ſeems to agree in quality with the hyoſcyamus formerly mentioned, though, as Dale informs us, often ſubſtituted in our markets for the true tobacco: from which it may be diſtinguiſhed by the leaves being much ſmaller, and the flowers not reddiſh as thoſe of the officinal ſort, but of a yellowiſh green colour.

NIGELLA [*Brun.*] *Semen.*
Nigella ſativa Lin.
Fennel-flower; the ſeeds.

This plant is ſown annually in ſome of our gardens; the ſeeds moſt eſteemed are brought from Italy. They have a ſtrong, not unpleaſant ſmell; and a ſubacrid, ſomewhat unctuous diſagreeable taſte. They ſtand recommended as aperient, diuretic, &c. but have long been ſtrangers to practice, and are by ſome ſuſpected to have noxious qualities.

NITRUM [*Lond. Ed.*]
Kali nitratum.
Nitre.

Nitre, or ſaltpetre, is a ſalt extracted in Perſia and the Eaſt-Indies from certain earths that lie on the ſides of hills; and artificially produced, in ſome parts of Europe from animal and vegetable matters rotted together, with the addition of lime and aſhes, and expoſed for a length of time to the air; without the acceſs of which, nitre is never generated: the ſalt extracted from the earth, &c. by means of water, is purified by colature and cryſtallization.

Pure nitre diſſolves in about ſix times its weight of water, and concretes again into colourleſs tranſparent cryſtals; their figure is that of an hexagonal priſm, terminated by a pyramid of an equal number of ſides. It readily melts in the fire; and in contact with fuel deflagrates, with a bright flame and conſiderable noiſe; after the detonation is over, a large quantity of alkaline ſalt is found remaining. The taſte of nitre is ſharp, penetrating, and bitteriſh, accompanied with a certain ſenſation of coldneſs.

Nitre is a medicine celebrated in many diſorders. Beſides the aperient quality of neutral ſalts in general, it has a manifeſtly cooling one, by which it quenches thirſt, and abates febrile heats and commotions of the blood: it has one great advantage above the refrigerating medicines of the acid kind, that it does not coagulate the animal juices: blood, which is coagulated by all the mineral acids, and milk, &c. by acids

acids of every kind, are by nitre rendered more dilute, and preſerved from coagulation: it is, however, ſuppoſed to thicken the thin, ſerous, acrimonious humours, and occaſion an uniform mixture of them with ſuch as are more thick and viſcid; by this means preventing the ill conſequences which would otherwiſe enſue from the former, though it has not, as Junckner ſuppoſes, any property of really obtunding acrimony. This medicine for the moſt part promotes urine; ſometimes gently looſens the belly; but in cold phlegmatic habits, very rarely has this effect, though given in large doſes: alvine fluxes, proceeding from too great acrimony of the bile or inflammation of the inteſtines, are ſuppreſſed by it: in choleric and febrile diſorders, it generally excites ſweat; but in malignant caſes, where the pulſe is low, and the ſtrength loſt, it retards this ſalutary evacuation and the eruption of the exanthemata.

Dr Stahl has written an expreſs treatiſe upon the medical virtues of nitre; in which he informs us, from his own experience, that this ſalt added to gargariſms employed in inflammations of the fauces in acute fevers, thickens the ſalival moiſture upon the palate and fauces into the conſiſtence of a mucus, which keeps them moiſt for a conſiderable time; whereas, if nitre be not added, a ſudden dryneſs of the mouth immediately enſues: that in nephritic complaints, the prudent uſe of nitre is of more ſervice than any of the numerous medicines uſually recommended in that diſeaſe: that nitre gives great relief in ſuppreſſion and heat of urine, whether ſimple or occaſioned by a venereal taint; that it is of great ſervice in acute and inflammatory pains of the head, eyes, ears, teeth, &c. in all eryſipelatous affections whether particular or univerſal, and likewiſe in chronic delirium; that in diarrhœa happening in petechial fevers, nitre mixed with abſorbents and diaphoretics, had the beſt effects, always putting a ſtop to the flux, or rendering the evacuation ſalutary; that in diarrhœa happening in the ſmall-pox, it had been employed with the like ſucceſs, two doſes or three at moſt conſiſting of two, three, or four grains each, according to the age, &c. of the patient, given at the interval of two or three hours, putting a ſtop to the flux, after the bezoardic powders, both with and without opium, had been given without ſucceſs. The ſame author recommends this ſalt likewiſe as a medicine of ſingular ſervice in cholera attended with great anxieties and heat of the blood; in the flatulent ſpaſmodic heartburns familiar to hypochondriacal people; and againſt the loſs of appetite, nauſea, vomiting, &c. which gouty perſons are ſometimes ſeized with upon the pains of the feet, &c. ſuddenly remitting. In caſes of this laſt kind, the uſe of nitre ſurely requires great caution, although the author aſſures us, that no bad conſequences are to be feared from it. Nevertheleſs, he obſerves, that in a phthiſis and ulcerous affection, it has been found to be of no ſervice; and that therefore its uſe may be ſuperſeded in theſe complaints. Indeed, in diſorders of the lungs in general, it is commonly reckoned to be rather hurtful than beneficial. In modern practice, it is given in form of powder or julep as a refrigerant and diuretic; and ſome recommend it much in hemoptyſis, though in ſome conſtitutions it is alleged to have a peculiar influence on the lungs, occaſioning dyſpnœa even when given by the anus. It is ſaid to diſpoſe to cramps in the ſtomach, and to be particularly unfriendly to gouty ſtomachs.

The

The usual dose of this medicine among us is from two or three grains to a scruple; though it may be given with great safety, and generally to better advantage, in larger quantities: the only inconvenience is its not being apt to sit easy on the stomach. Some have affirmed, that this salt loses half its weight of aqueous moisture by fusion, and consequently that one part of melted nitre is equivalent to two of the crystals; but it did not appear, upon several careful trials, to lose so much as one twentieth of its weight. The only officinal preparation of nitre is the troches. It is employed likewise in operations on metallic bodies, for promoting their calcination, as in the *calx antimonii nitrata.*

NUMMULARIA [*Brun.*] *Folia.*

Lysimachia nummularia Lin.

Moneywort, or herb two-pence; the leaves.

This grows spontaneously in moist watery places, and creeps on the ground with two little roundish leaves at each joint. Their taste is subastringent, and very lightly acid: hence they stand recommended by Boerhaave in the hot scurvy, and in uterine and other hemorrhagies. But their effects are so inconsiderable, that common practice takes no notice of them.

NUX MOSCHATA [*Lond. Ed.*] *Oleum essentiale, oleum expressum, oleum macis, vulgo dictum.*

Myristica moschata. Act. Holm. [*Lond.*]

Myristica officinalis Lin. Sup. [*Ed.*]

Nutmeg.

Nutmegs are the kernel of a roundish nut which grows in the East-Indies. The outside covering of this fruit is soft and fleshy like that of a walnut, and spontaneously opens when the nut grows ripe: immediately under this lies the mace, (see the article MACIS) which forms a kind of reticular covering; thro' the fissures whereof appears a hard woody shell that includes the nutmeg. These kernels have long been made use of both for medicinal and culinary purposes, and deservedly looked upon as a warm agreeable aromatic. They are supposed likewise to have an astringent virtue; and are employed with that intention in diarrhœas and dysenteries. Their astringency is said to be increased by torrefaction, but this does not appear to the taste: this treatment certainly deprives the spice of some of its finer oil, and therefore renders it less efficacious for any good purpose; and, if we may reason from analogy, probably abates of its astringency. Nutmegs distilled with water, afford a large quantity of essential oil, resembling in flavour the spice itself; after the distillation, an insipid sebaceous matter is found swimming on the water; the decoction, inspissated, gives an extract of an unctuous, very lightly bitterish taste, and with little or no astringency. Rectified spirit extracts the whole virtue of nutmegs by infusion, and elevates very little of it in distillation: hence the spirituous extract possesses the flavour of the spice in an eminent degree.

Nutmegs yield to the press, when heated, a considerable quantity of limpid yellow oil, which on cooling concretes into a sebaceous consistence. In the shops we meet with three sorts of unctuous substances, called oil of mace, though really expressed from the nutmeg. The best is brought from the East-Indies, in stone jars; this is of a thick consistence, of the colour of mace, and an agreeable fragrant smell: the second sort, which is paler coloured, and

and much inferior in quality, comes from Holland in ſolid maſſes, generally flat and of a ſquare figure: the third, which is the worſt of all, and uſually called common oil of mace, is an artificial compoſition of ſevum, palm oil, and the like, flavoured with a little genuine oil of nutmeg. Theſe oils yield all that part in which their aromatic flavour reſides, on diſtillation to water, and to pure ſpirit by infuſion: the diſtilled liquor and ſpirituous tincture nearly reſemble in quality thoſe prepared immediately from the nutmeg. The officinal preparations of nutmegs are, a ſpirit and eſſential oil, and the nutmegs in ſubſtance roaſted. Both the nutmeg itſelf and its eſſential oil enter ſeveral compoſitions, as the confectio aromatica, ſpiritus amoniæ compoſitus, &c.

NUX PISTACHIA [*Gen.*]
Piſtachia vera Lin.
Piſtachio nut.

This is a moderately large nut, containing a kernel of a pale greenifh colour, covered with a reddiſh ſkin. The tree which produces it grows ſpontaneouſly in Perſia, Arabia, and ſeveral iſlands of the Archipelago: it bears likewiſe the colds of our own climate, ſo as to have produced fruit not inferior to that which we receive from abroad. Piſtachio nuts have a pleaſant, ſweet, unctuous taſte, reſembling that of almonds. They are ranked amongſt the analeptics; and are by ſome much eſteemed in certain weakneſſes, and in emaciated habits.

NUX VOMICA [*Suec.*]
Strychnos nux vomica Lin.
Nux vomica.

This is the produce of a tree growing in the Eaſt-Indies, where it is ſaid to be uſed as a ſpecific againſt the bite of a ſpecies of water-ſnake. It is conſiderably bitter and deleterious; but has been uſed in doſes from five to ten grains twice a-day or ſo, in intermittents, particularly obſtinate quartans, and in contagious dyſentery. The *ſtrychnos Ignatii* is a tree of the ſame kind, producing gourd-like fruit, the ſeeds of which are improperly called St Ignatius's beans. Theſe, and alſo the woods or roots, of ſome ſuch trees, called lignum colubrinum or ſnakewood, are very narcotic bitters like the nux vomica.

NYMPHÆA ALBA [*Brun.*]
Radix flores.
Nymphæa alba Lin.
White water-lily; the root and flowers.

This grows in rivers and large lakes, flowering uſually in June. The roots and flowers have a rough, bitteriſh, glutinous taſte; (the flowers are the leaſt rough); and when freſh, they have a diſagreeable ſmell, which is in great meaſure loſt by drying: they are recommended in alvine fluxes, gleets, and the like. The roots are ſuppoſed by ſome to be in a high degree narcotic, but on no very good foundation. Lindeſtolpe informs us, that in ſome parts of Sweden they were in times of ſcarcity uſed as food, and did not prove unwholeſome.

OCHRA [*Brun.*]
Yellow ochre: a ſoft friable ore of iron, of a yellow colour, dug in ſeveral parts of England. It poſſeſſes the virtues of the calces of iron and hæmatites; but in ſo low a degree, that the ſhops have deſervedly rejected it; its principal uſe is as a pigment.

OCULI CANCRORUM. See CANCRORUM OCULI.

ŒNANTHE *Radix, folia.*
Oenanthe crocata Lin.
Hemlock dropwort.

This is one of three species of the genus œnanthe, belonging to the umbelliferous class, and natives of Great Britain. It grows in moist places, with pinnated leaves, ribbed stalks, and white thick short bunchy roots. It is known as a virulent poison; but the juice of the root, or the infusion of the leaf, has been recommended in chronic eruptions.

A case was some time ago published in the Philosophical Transactions by Dr Pultney; in which, when taken by mistake in an affection of that kind, it had nearly proved fatal, but was in the end the means of accomplishing a complete recovery. It has since that been a good deal employed at Edinburgh, and in some cases with apparent advantage. The late Dr Hope thought, that in many cases he found an infusion of leaves highly useful in promoting the menstrual discharge. It does not seem to have yet found its way into any of our modern pharmacopœias; but it may, we think, be justly considered as meriting farther attention. It proves diuretic, and is apt to occasion vertigo and sickness.

OLIBANUM [*Lond. Ed.*] *Gummi resina.*
Juniperus Lycia Lin.
Olibanum.

This gummi resinous substance is brought from Turkey and the East-Indies, usually in drops or tears, like those of mastich, but larger, of a pale yellowish, and sometimes reddish colour; a moderately warm pungent taste, and a strong, not very agreeable smell. This drug has received many different appellations, according to its different appearances: the single tears are called simply *olibanum*, or *thus*: when two are joined together, they have been called *thus masculum*, and when two were very large, *thus femininum*: sometimes four or five, about the bigness of filberds, are found adhering to a piece of the bark of the tree from which they exuded; these have been named *thus corticosum*; the finer powder, which rubs off from the tears in the carriage, *mica thuris*; and the coarser powder, *manna thuris*. This drug is not however, in any of its states, what is now called *thus* or *frankincense* in the shops

Olibanum consists of about equal parts of gummy and resinous matters; the first soluble in water, the other in rectified spirit. With regard to its virtues, abundance have been attributed to it, particularly in disorders of the head and breast, in hæmoptoes, and in alvine and uterine fluxes: but its real effects in these cases are far from answering the promises of the recommenders. Riverius is said to have had large experience of the good effects of this drug in pleurisies, especially epidemic ones: he directs a scooped apple to be filled with a dram of olibanum, then covered and roasted under the ashes; this is to be taken for a dose, three ounces of carduus water drank after it, and the patient covered up warm in bed: in a short time, he says, either a plentiful sweat, or a gentle diarrhœa, ensues, which carries off the disease. Geoffroy informs us, that he has frequently made use of this medicine, after venesection, with good success; but acknowledges that it has sometimes failed.

OLIVA [*Lond. Ed.*] *Oleum expressum*
Olea Europea Lin.
Olive; the expressed oil of the fruit.

This tree grows in the southern parts of France, in Spain, Italy, and other

other warm countries: with us it is usually preserved in the greenhouses of the curious, though it will bear our ordinary winters in the open air, and produce very good fruit. Olives have an acrid, bitter, extremely disagreeable taste: pickled, as we receive them from abroad, they prove less disagreeable; the Lucca olives, which are smaller than the others, have the weakest taste; the Spanish, or larger, the strongest; the Provence, which are of a middling size, are generally the most esteemed.

The oil obtained from this fruit has no particular taste or smell, and does not greatly differ in quality from oil of almonds. Authors make mention of two sorts of this oil, one expressed from the olives when fully ripe, which is our common olive oil: the other, before it has grown ripe; this is called *oleum immaturum*, and *omphacinum*. Nothing is met with in the shops under this name; and Lemery affirms, that there is no such oil; unripe olives, yielding only a viscid juice to the press. From the ripe fruit, two or three sorts are obtained, differing in degree of purity: the purest runs by light pressure: the remaining magma, heated and pressed more strongly, yields an inferior sort, with some dregs at the bottom, called *amurca*. All these oils contain a considerable portion of aqueous moisture, and a mucilaginous substance; which subject them to run into a putrid state: to prevent this, the preparers add some sea-salt, which, imbibing the aqueous and mucilaginous parts, sinks with them to the bottom; by this means the oil becomes more homogeneous, and consequently less susceptible of alteration. In its passage to us, some of the salt, thrown up from the bottom by the shaking of the vessel, is sometimes mixed with and detained in the oil, which, in our colder climate, becomes too thick to suffer it freely to subside; and hence this oil is sometimes found to have a manifestly saline taste. Oil olive is used in the simple oleum sulphuratum, and several ointments. It is oftener employed with this last intention than the other expressed oils, but more rarely for internal medicinal purposes, although not unfrequently it is employed against coughs and hoarseness, when united with water by the intervention of alkali.

ONONIS [*Suec.*] *Radix.*
Ononis spinosa Lin.
Rest-harrow, cammock, or petty-whin; the root.

This plant grows wild in waste-grounds, and dry fields. The root has a disagreeable smell, and a nauseous sweetish taste: it stands recommended as an aperient and diuretic; but has never been much regarded among us.

OPIUM [*Lond. Ed.*] *Succus inspissatus.*
Paper somniferum Lin.
Opium.

This juice has not yet been collected in quantity in Europe. Egypt, Persia, and some other provinces of Asia, have hitherto supplied us with this commodity: in those countries, large quantities of poppies are cultivated for this purpose. The opium prepared about Thebes in Egypt, hence named Thebaic opium, has been usually esteemed the best; but this is not now distinguished from that collected in other places. This juice is brought to us in cakes or loaves, covered with leaves, and other vegetable matters, to prevent their sticking together: it is of a solid consistence, yet somewhat soft and tenacious, of a dark reddish brown colour in the

maſs, and when reduced into powder, yellow; of a faint diſagreeable ſmell and a bitteriſh taſte, accompanied with a pungent heat and acrimony:

In the province of Bahar in the Eaſt-Indies, it is ſaid, the poppy ſeeds are ſown in October or November at about eight inches diſtance; and are well watered till the plants are about half a foot high, when a compoſt of nitrous earth, dung, and aſhes, is ſpread over the areas; and a little before the flowers appear, they are again watered profuſely till the capſules are half grown: and then the opium is collected; for when fully ripe, they yield little juice. Two longitudinal inciſions, from below upwards, without penetrating the cavity, are made at ſunſet for three or four ſucceſſive evenings; and then they are allowed to ripen their ſeeds. In the morning the juice is ſcraped off with an iron ſcoop, and worked in an earthen pot in the ſun's heat till it be of a conſiſtence to be formed into thick cakes of about four pounds weight, which are covered over with the leaves of poppy or tobacco, and dried. It is ſaid to be adulterated with various unknown ſubſtances, with the extract of the poppy plant procured by boiling, and even with cow-dung. It is purified by reducing it to a pulp with hot water, and ſtrongly preſſing it while hot thro' a linen cloth from its impurities. It is then evaporated by a water-bath or other gentle heat to its original conſiſtence. This extract is found to contain a reſin, a kind of eſſential oil, a principle of odour, an eſſential ſalt, and a ſoapy extract.

Opium has a reddiſh brown colour; a ſtrong peculiar ſmell; a taſte at firſt nauſeous and bitter, but ſoon becoming acrid, with a ſlight warmth; and it appears to have ſome aſtringency, as a watery tincture of it forms an ink with a chalybeate ſolution.

The external and internal effects of opium appear to be various in different conſtitutions, and in the ſame at different times. By ſome, when applied to the tongue, the noſe, the eye, or any part deprived of ſkin, it has been ſaid to ſtimulate and to induce in the eye in particular a ſlight degree of redneſs. But if this effect do take place, it is at the utmoſt extremely inconſiderable, praticularly when compared with the effect of volatile alkali, ardent ſpirit, or a variety of other articles applied to the ſame organ. And there can be no doubt, that in a very ſhort time the ſenſibility of the part to which it is applied, even when there has not taken place the ſlighteſt mark of preceding ſtimulus or inflammation, is very conſiderably diminiſhed. Some allege, that when applied to the ſkin, it allays pain and ſpaſm, procures ſleep, and produces all the other ſalutary or dangerous effects which reſult from its internal uſe; while others allege, that thus applied it has little or no effect whatever.

This variety probably ariſes from differences in the condition of the ſubcutaneous nerves, and of the ſenſibility of the ſurface as being more or leſs defended. But there is no doubt, that when mixed with cauſtic, it diminiſhes the pain, which would otherwiſe enſue, probably by deadening the ſenſibility of the part.

It ſometimes allays the pain from a carious tooth; and a watery ſolution of it has been uſed in various ulcers, certain ophthalmias, and virulent gonorrhœa, when pain and inflammation have before that given very great diſtreſs.

Opium, when taken into the ſtomach

mach to ſuch an extent as to have any ſenſible effect, gives riſe to a pleaſant ſerenity of mind, in general proceeding to a certain degree of languor and drowſineſs. The action of the ſanguiferous ſyſtem is diminiſhed, the pulſe becoming for the moſt part ſofter, fuller, and ſlower than it was before. There often takes place ſwelling of the ſubcutaneous veins, and ſweating; both probably the conſequences of a diminution of reſiſtance at the ſurface, from a diminution of muſcular action; and accordingly opium diminiſhes thoſe diſcharges which depend on muſcular action, as is particularly exemplified in its effect of binding the belly. Opium taken into the ſtomach in a larger doſe, gives riſe to confuſion of head and vertigo. The power of all ſtimulating cauſes, as making impreſſions on the body is diminiſhed; and even at times, and in ſituations when a perſon would naturally be awake, ſleep is irreſiſtibly induced. In ſtill larger doſes, it acts in the ſame manner as the narcotic poiſon, giving riſe not only to vertigo, headach, tremors, and delirium, but to convulſions alſo; and theſe terminating in a ſtate of ſtupor, from which the perſon cannot be rouſed. This ſtupor is accompanied with ſlowneſs of the pulſe, and with ſtertor in breathing, and the ſcene is terminated in death, attended with the ſame appearances as take place in apoplexy.

From theſe effects of opium in a ſtate of health, it is not wonderful that recourſe ſhould have been had to it in diſeaſe, as mitigating pain, inducing ſleep, allaying inordinate action, and diminiſhing morbid ſenſibility. That theſe effects do reſult from it, is confirmed by the daily experience of every obſerver: And as anſwering one or other of theſe intentions, moſt, if not all, of the good conſequences derived from it in actual practice are to be explained. If, therefore, by a ſedative medicine, we mean an article capable of allaying, aſſuaging, mitigating, and compoſing, no ſubſtance can have a better title to the appellation of ſedative than opium.

As anſwering the purpoſes of mitigating pain, inducing ſleep, allaying inordinate action, and diminiſhing ſenſibility, it naturally follows, that opium may be employed with advantage in a great variety of different diſeaſes. Indeed there is hardly any affection, in which it may not, from circumſtances, be proper; and in all deſperate caſes, it is the moſt powerful means of alleviating the miſeries of patients.

Some practitioners are averſe to its uſe where there takes place an active inflammation; but others have recourſe to it in ſuch caſes, even at an early period, eſpecially after blood-letting; and where ſuch affections are attended not only with pain and ſpaſm, but with watchfulneſs and cough, it is often productive of the greateſt benefit. Opium combined with calomel has of late been extenſively employed in every form of active inflammation, and with the greateſt ſucceſs. It is found alſo to be of very great ſervice in allaying the pain and preventing the ſymptomatic fever liable to be induced by wounds, fractures, burns, or ſimilar accidents.

In intermittents, it is ſaid to have been uſed with good effect before the fit, in the cold ſtage, in the hot ſtage, and during the interval. Given even in the hot ſtage, it has been obſerved to allay the heat, thirſt, head-ach, and delirium, to induce ſweat and ſleep, to cure the diſ-

eaſe with the leſs bark, and without leaving abdominal obſtructions or dropſy.

It is often of very great ſervice in fevers of the typhoid type, when patients are diſtreſſed with watchfulneſs or diarrhœa. But where theſe or ſimilar circumſtances do not indicate its uſe, it is often diſtreſſing to patients by augmenting thirſt and conſtipation.

In ſmall-pox, when the convulſions before eruption are frequent and conſiderable, opium is liberally uſed. It is likewiſe given from the fifth day onwards; and is found to allay the pain of ſuppuration, to promote the ptyaliſm, and to be otherwiſe uſeful.

In dyſentery, after the uſe of gentle laxatives, or along with them, opium, independently of any effect it may have on the fever, is of conſequence in allaying the tormina and teneſmus, and in obviating that laxity of bowels which is ſo frequently a relict of that diſeaſe.

In diarrhœa, the diſeaſe itſelf generally carries off any acrimony that may be a cauſe, and then opium is uſed with great effect. Even in the worſt ſymptomatic caſes, it ſeldom fails to alleviate.

In cholera and pyroſis, it is almoſt the only thing truſted to.

In cholic, it is employed with laxatives; and no doubt often prevents ileus and inflammation, by relieving the ſpaſm. Even in ileus and in incarcerated hernia, it is often found to allay the vomiting, the ſpaſms, the pain, and ſometimes to diminiſh the inflammation, and prevent the gangrene of the ſtrangulated gut.

It is given to allay the pain and favour the deſcent of calculi, and to relieve in jaundice and dyſuria proceeding from ſpaſm.

It is of acknowledged uſe in the different ſpecies of tetanus; affords relief to the various ſpaſmodic ſymptoms of dyſpepſia, hyſteria, hypochondriaſis, aſthma, rabies, canina, &c. and has been found uſeful in ſome kinds of epilepſy.

Of late, in doſes gradually increaſed to five grains, three, four, or even ſix times a-day, it has been uſed in ſyphilis; and ſome inſtances are recorded, in which it would ſeem that by this remedy alone a complete cure had been obtained. In other inſtances, however, after the faireſt trial for a conſiderable length of time, it has been found ineffectual; and upon the whole, it ſeems rather to be uſeful in combating ſymptoms, and in counteracting the effects reſulting from the improper uſe of mercury, than in overcoming the venereal virus.

It is found uſeful in certain caſes of threatened abortion and lingering delivery, in convulſions during parturition, in the after-pains and exceſſive flooding.

The only form perhaps neceſſary for opium is that of pill; and as it is ſo ſoluble in every menſtruum, there ſeems the leſs occaſion for the addition of either gum or ſoap. This form is more apt to ſit on the ſtomach than any liquid form, but requires rather more time to produce its effects. The adminiſtration of opium to the unaccuſtomed, is ſometimes very difficult. The requiſite quantity of opium is wonderfully different in different perſons, and in different ſtates of the ſame perſon. A quarter of a grain will in one adult produce effects which ten times the quantity will not do in another; and a doſe that might prove fatal in cholera or cholic, would not be perceptible in many caſes of tetanus or mania. The loweſt fatal doſe to the unaccuſtomed, as mentioned by authors, ſeems to be four grains; but a dangerous doſe is ſo apt to puke, that it has ſeldom time

to

to occaſion death. When given in too ſmall a doſe, it is apt to produce diſturbed ſleep, and other diſagreeable conſequences; and in ſome caſes it ſeems impoſſible to be made agree in any doſe or form. Often, on the other hand, from a ſmall doſe, ſound ſleep, and alleviation of pain will be produced, while a larger one gives riſe to vertigo and delirium. Some preſer the repetition of ſmall doſes, others the giving of a full doſe at once. In ſome it ſeems not to have its proper effect till after a conſiderable time. The operation of a moderate doſe is ſuppoſed to laſt in general about eight hours from the time of taking it.

Pure opium is partially ſoluble in water and in rectified ſpirit, and totally in proof-ſpirit, wine, or vinegar. Water rubbed with opium, and decanted repeatedly till it come off colourleſs, yields, on gentle evaporation, an extract which ſome uſe and recommend as one of the beſt preparations of this ſubſtance, and which requires to be given in double the doſe of common opium.

It is ſaid, that alkalies diminiſh its ſoporific effects; that the fixed render it diuretic, the volatile determine it to the ſkin; and that acids deſtroy its activity almoſt entirely. But when conjoined with acids, particularly the diluted vitriolic acid, it often ſits eaſily on the ſtomach, when it would not otherwiſe be retained, and afterwards produces all its ſedative effects.

The chief officinal preparations of opium are, the opium purificatum, pilulæ ex opio, pulvis opiatus tinctura opii, and tinctura opii camphorata. Beſides this it enters a great variety of different compoſitions, as the pulvis ſudorificus, balſamum anodynum, electuarium japonicum, pulvis e creta compoſitus, &c.

The occaſional bad effects of opium may reſult from the ſame power by which, in other ſtates of the ſyſtem, it proves beneficial. The methods, therefore, propoſed of correcting theſe by roaſting, fermentation, long-continued digeſtion, repeated ſolutions and diſtillations, have not ſucceeded.

OPOPANAX [*Lond.*] *Gummi reſina.*

Paſtinacio opopanax Lin.

Opopanax.

This is a concrete gummy reſinous juice, obtained from the roots of an umbelliferous plant, which grows ſpontaneouſly in the warmer countries, and bears the colds of this. The juice is brought from Turkey and the Eaſt-Indies, ſometimes in round drops or tears, but more commonly in irregular lumps, of a reddiſh yellow colour on the outſide, with ſpecks of white, inwardly of a paler colour, and frequently variegated with large white pieces. It has a peculiar ſtrong ſmell, and a bitter, acrid, ſomewhat nauſeous taſte. Its virtues are thoſe of an attenuating and aperient medicine. Boerhaave frequently employed it, along with ammoniacum and galbanum, in hypochondriacal diſorders, obſtructions of the abdominal viſcera, and ſuppreſſions of the menſtrual evacuations from a ſluggiſhneſs of mucous humours, and a want of due elaſticity of the ſolids: with theſe intentions it is an uſeful ingredient in the pilulæ gummoſæ and compound powder of myrrh of the London pharmacopœia, but is not employed in any compoſition of the Edinburgh. It may be given by itſelf in the doſe of a ſcruple, or half a dram: a

whole dram proves, in many conſtitutions, gently purgative.

ORCHIS, vide SATYRION.

ORIGANUM [*Lond.*] *Herba.*
Origanum vulgare Lin.
Wild marjorum; the herb.

This is met with upon dry chalky hills, and in gravelly ſoils, in ſeveral parts of England. It has an agreeable ſmell, and a pungent taſte, warmer than that of the garden marjoram, and much reſembling thyme, which it ſeems to agree with in virtue. An eſſential oil diſtilled from it is kept in the ſhops.

There is another ſort of *origanum* called *Creticum*, whoſe flowers, or rather flowery tops, are ſometimes brought to us from Candy: theſe have an agreeable aromatic flavour, ſomewhat ſtronger than the common ſort.

ORYZA [*Brun.*] *Semen.*
Oryza ſativa Lin.
Rice; the grain.

Rice is the product of many different countries, particularly of the Eaſt-Indies: but as uſed in Britain, it is brought chiefly from Carolina, where the plant is cultivated in large quantities. It is ſufficiently nutritious, and affords an uſeful food in diarrhœas, dyſenteries, and other diſorders from a thin acrimonious ſtate of the juices.

OVUM [*Lond.*]
Ovum gallinaceum Lin.
The pullets egg.

Both the yolk and the white of eggs are uſed to give a proper form to different medicines, and are for that purpoſe employed in ſome of the officinal preparations, as in the coagulum aluminis. But they do not ſeem to poſſeſs any medical virtues unleſs as an article of diet; and uſed with that intention, they are highly nutritious. Egg-ſhells when burnt become a quicklime, and as ſuch they have ſometimes been uſed in medicine; but they differ in no reſpect from the other calcareous earths.

OXALIS, vide ACETOSA.

OXYACANTHA GALENI. Vide BERBERIS.

OXYLAPATHUM. Vide LAPATHUM.

PÆONIA [*Suec.*] *Radix, ſemen.*
Pæonia officinalis Lin.
Male and female peony; the root and ſeed.

Theſe plants are cultivated in our gardens on account of the beauty of their flowers; the female, which is the largeſt and moſt elegant, and for this reaſon the moſt common, is the only one with which the ſhops are ſupplied. In quality they are ſcarce ſenſibly different; and hence they may be taken promiſcuouſly. The roots and ſeeds of peony have, when recent, an unpleaſant ſcent, approaching to that of the narcotic plants, and a ſomewhat glutinous ſubacrid taſte, with a light degree of bitterneſs and aſtringency: the leaves alſo diſcover an aſtringent quality, both to the taſte, and by changing chalybeate ſolutions of a purple colour: the flowers have little taſte, and a very faint, not agreeable ſmell. The parts which have chiefly been uſed for medicinal purpoſes, are the roots and ſeeds. Theſe are looked upon as emollient, corroborant, and lightly anodyne: and ſuppoſed to be of ſervice in ſome kinds of obſtructions, eroſions of the viſcera, heat of urine, pains in the kidneys, and the

the like. The virtue they are chiefly celebrated for, is that of curing ſpaſmodic and epileptic complaints; which many have been abſurd enough to believe that the root of this plant would do by being only worn about the neck.

PALMA [*Ed.*] *Fructus oleum expreſſum.*

Palma fructu pruniformi.

Palm tree; the expreſſed oil of the fruit.

This oil is obtained from the kernels of the fruit of a ſpecies of palm-tree, which is a native of the coaſt of Guinea and Cape Verd iſlands: from theſe places it has been tranſplanted into Jamaica and Barbadoes. The oil, as brought to us, is about the conſiſtence of an ointment, and of an orange colour; it has a ſtrong, not diſagreeable ſmell, but very little taſte: by long keeping it loſes its high colour, and becomes white, when it ought to be rejected as no longer fit for uſe. The inhabitants of the Guinea coaſt are ſaid to make this oil part of their food, and to employ it for the ſame purpoſes as we do butter. With us it is rarely given inwardly, and uſed only in ſome external applications, for pains and weakneſs of the nerves, cramps, ſprains, and the like. The common people apply it for the cure of chilblains, and, when early made uſe of, not without ſucceſs.

PAPAPER ALBUM [*Lond.*] *Caput.*

Papaver ſomniferum Lin.

The white poppy; the head.

The heads and ſtalks of theſe plants contain a milky juice; which may be collected in conſiderable quantity, by lightly wounding them when almoſt ripe: this juice, expoſed for a few days to the air, thickens into a ſtiff tenacious maſs, agreeing in quality with the opium brought from abroad. The juices of different poppies appear to be ſimilar to each other; the only difference is in the quantity afforded, which is generally in proportion to the ſize of the plants: the larger, or white poppy, is the ſort cultivated by the preparers of opium in the eaſtern countries, and for medicinal uſes in this.

Poppy-heads, boiled in water, impart to the menſtruum their narcotic juice, together with the other juices which they have in common with vegetable matters in general. The liquor ſtrongly preſſed out, ſuffered to ſettle, clarified with whites of eggs, and evaporated to a due conſiſtence, yields about one-fifth, or one-ſixth the weight of the heads, of extract. This poſſeſſes the virtues of opium; but requires to be given in double its doſe to anſwer the ſame intention, which it is ſaid to perform without occaſioning a nauſea and giddineſs, the uſual conſequences of the other. A ſtrong decoction of the heads, mixed with as much ſugar as is ſufficient to reduce it into the conſiſtence of a ſyrup, becomes fit for keeping in a liquid form; and is the only officinal preparation of the poppy. Both theſe preparations are very uſeful ones, though liable to variation in point of ſtrength: nor does this inconvenience ſeem avoidable by any care in the preſcriber or the operator; ſince the poppy-heads themſelves, according to the degree of maturity, and the ſoil and ſeaſon of which they are the produce, contain different proportions of the narcotic matter to the other juices of the plant.

The ſeeds of the poppy are by many reckoned ſoporific: Juncker ſays, they have the ſame quality with thoſe of hyoſcyamus, and Herman looks upon them as a good

ſubſtitute to opium; miſled probably by an obſervation which holds in many plants, that the ſeeds are more efficacious than the veſſels in which they are contained.

The ſeeds of the poppy have nothing of the narcotic juice which is lodged in their covering and in the ſtalks; an oil expreſſed from them has been uſed for the ſame purpoſes as oil olive; and the ſeeds themſelves have been taken as food: their taſte is ſweetiſh and farinaceous.

PAPAVER ERRATICUM [*Lond.*] *Flos.*

Papaver rhœas Lin.

Red poppy; the flower.

The flowers of this plant yield upon expreſſion a deep red juice, and impart the ſame colour by infuſion to acqueous liquors. A ſyrup of them is kept in the ſhops; this is valued chiefly for its colour; tho' ſome expect from it a lightly anodyne virtue.

PARALYSIS, ſive PRIMULA [*Suec.*] *Flores.*

Primula veris Lin.

Cowſlips; the flowers.

This plant grows wild in marſhes and moiſt meadows. The flowers appear in April; they have a pleaſant ſweet ſmell, and a ſubacrid, bitteriſh, ſomewhat aſtringent taſte. An infuſion of them, uſed as tea, is recommended as a mild corroborant in nervous complaints, and in ſome female diſorders, proceeding from a deficiency of the menſtrual purgations. A ſtrong infuſion of them forms, with a proper quantity of ſugar, an agreeable ſyrup, which long maintained a place in the ſhops: but by boiling, even for a little time, their fine flavour is deſtroyed.

PAREIRA BRAVA [*Lond.*] *Radix.*

Ciſſampelos pareira Lin.

Pareira brava; the root.

This is the root of an American plant brought to us from Brazil, in pieces of different ſizes, ſome no bigger than one's finger, others as large as a child's arm; it is crooked, and variouſly wrinkled on the ſurface; outwardly of a dark colour, internally of a dull yellowiſh, and interwoven with woody fibres; ſo that, upon a tranſverſe ſection, a number of concentric circles appear, croſſed with fibres, which run from the centre to the circumference: it has no ſmell; the taſte is a litle bitteriſh, blended with a ſweetneſs, like that of liquorice. This root is highly extolled by the Brazilians and Portugueſe, in a great variety of diſeaſes, particularly againſt ſuppreſſions of urine, nephritic pains, and the calculus. In the two firſt, Geoffroy ſays he has given it with good ſucceſs; and that the patient was almoſt inſtantly relieved by it, a copious diſcharge of urine ſucceeding. He likewiſe obſerved large quantities of gravel, and even ſmall ſtones, voided after its uſe: this effect he attributes not to any lithontriptic power, but to its diſſolving the viſcid mucus by which the fabulous matter had been detained. He likewiſe relates, that he has had frequent experience of the good effects of this root in deterging and healing ulcers of the kidneys and bladder, where the urine came away purulent and mucous, and could not be voided at all without extreme pain: by the uſe of the *pareira*, the urine ſoon became clear, and of a due conſiſtence, and was evacuated freely; and by joining to this medicine balſam of Copaiba, the ulcer perfectly healed. The attenuating quality which he

he had discovered in this root, induced him to make trial of it in other diseases proceeding from tenacious juices, and in these likewise it fully answered his expectations: in humoral asthmas, where the lungs were stuffed up, and the patient almost suffocated by thick phlegm, an infusion of *pareira*, after many other medicines had proved ineffectual, occasioned a plentiful expectoration, and soon completed a cure: in the jaundice, proceeding from thick bile, it did excellent service: but in another icterical case, where the liver was swelled and hard, this medicine did no good. His dose of the root in substance is from twelve grains to half a dram; in decoction to two or three drams.

These good effects, however, have not been confirmed by later experience; and at present it is so little used, that the Edinburgh college have given it no place in their pharmacopœia.

PARIETARIA [*Lond. Ed.*] *Herba.*

Parietaria officinalis Lin.

Pellitory of the wall; the herb.

This is a small plant growing upon old walls; of an herbaceous subsaline taste, without any smell. It is one of the five emollient herbs, and with this intention is occasionally made use of. The expressed juice has been given in the dose of three ounces as a diuretic.

PASTINACA [*Suec.*] *Semen.*

Pastinaca sativa Lin.

Parsneps; the seeds.

The roots of the parsnep are used as food, and prove sufficiently nutritious. The seeds are lightly aromatic; and from that circumstance are sometimes, altho' rarely, employed in medicine.

PENTAPHYLLUM [*Lond.*] *Radix.*

Potentilla reptans Lin.

Cinquefoil; the roots.

This grows plentifully in hedges and by road sides. The root is moderately astringent; and as such is sometimes given internally in diarrhœas and other fluxes, and employed in gargarisms for strengthening the gums, &c. The cortical part of the root may be taken, in substance, to the quantity of a dram: the internal part is considerably weaker, and requires to be given in double the dose to produce the same effect; and as we possess many more powerful astringents, the cinquefoil is but little used.

PERSICARIA [*Suec.*] *Herba.*

Polyganum hydropiper Lin.

Water pepper, the leaves.

This species of polygonum is remarkable for its pungent, biting, pepper-like taste. Its virtues are those of an acrid stimulating medicine; in phlegmatic habits, it promotes the urinary discharge, and has frequently done good service in scorbutic complaints. The fresh leaves are sometimes applied externally for cleansing old fistulous ulcers, and consuming fungous flesh: for these purposes they are said to be employed by the farriers, among whom they have been principally made use of.

PERSICA [*Brun.*] *Flos, nuclei.*

Amygdalus persica Lin.

The peach-tree; its flowers and kernels.

Peach-flowers have an agreeable smell, and a bitterish taste: distilled, without any addition, by the heat of a water-bath, they yield one-sixth their weight, or more, of a whitish liquor, which, as Mr Bolduc observes, communicates to a large

large quantity of other liquids a flavour like that of the kernels of fruits. An infusion in water of half an ounce of the fresh-gathered flowers, or a dram of them when dried, sweetened with sugar, proves for children an useful laxative and anthelmintic: the leaves of the tree are, with this intention, somewhat more efficacious, though less agreeable. The fruit has the same quality with the other sweet fruits, that of abating heat, quenching thirst, and gently loosening the belly.

PERUVIANUS CORTEX [*Lond. Ed.*]

Cinchona officinalis Lin.

Peruvian bark.

The tree which furnishes this bark is described as being in general about fifteen feet high and six inches thick. It somewhat resembles our cherry-tree, grows promiscuously in forests, particularly in the hilly parts of Quito in Peru, and is spontaneously propagated from its seeds

The bark has some odour, to most people not unpleasant, and very perceptible in the distilled water, in which floating globules, like essential oil, have been observed. Its taste is bitter and astringent, accompanied with a degree of pungency, and leaving a considerably lasting impression on the tongue.

Two species are mentioned, viz. the coloured and the white. The coloured includes the pale, the red, the yellow, and the knotty; their barks being coloured, having the cinchona taste and smell, and the trees having very smooth leaves and purplish flowers. The white includes four varieties, their barks being of a whitish colour, with very little taste or smell, the trees having broad hairy leaves, very fragrant red flowers, with hairs on the inside.

The proper red bark and one of the white kind have been found in the province of Santa Fé.

A species of cinchona has also been discovered in the West India islands, particularly in Jamaica: It is accurately described by Dr Wright, under the title of *Cinchona Jamaicensis*, in a paper published in the Philosophical Transactions. In Jamaica it is called the sea-side beech, and grows from twenty to forty feet high. The white, furrowed, thick outer bark is not used; the dark-brown inner bark has the common flavour, with a mixed kind of taste, at first of horse-radish and ginger, becoming at last bitter and astringent. It seems to give out more extractive matter than the cinchona officinalis. Some of it was imported from St Lucia, in consequence of its having been used with advantage in the army and navy during the last war; and it has lately been treated of at considerable length by Dr Kentish, under the title of St Lucia bark. The fresh bark is found to be considerably emetic and cathartic, which properties it is said to lose on drying.

The pale and the red are chiefly in use in Britain. The pale is brought to us in pieces of different sizes, either flat or quilled, and the powder is rather of a lighter colour than that of cinnamon. The red is generally in much larger, thicker, flattish pieces, but sometimes also in the form of quills, and its powder is reddish like that of Armenian bole. It is much more resinous, and possesses the sensible qualities of the cinchona in a much higher degree than the other sorts; and the more nearly the other kinds resemble the red bark, the better they are now

considered. The red bark is heavy, firm, sound, and dry; friable between the teeth; does not separate into fibres; and breaks, not shivery, but short, close, and smooth. It has three layers: the outer is thin, rugged, of a reddish brown colour, but frequently covered with mossy matter: the middle is thicker, more compact, darker coloured, very resinous, brittle, and yields first to the pestle: the inmost is more woody, fibrous, and of a brighter red.

The Peruvian bark yields its virtues both to cold and boiling water; but the decoction is thicker, gives out its taste more readily, and forms an ink with a chalybeate more suddenly than the fresh cold infusion. This infusion, however, contains at least as much extractive matter, but more in a state of solution; and its colour, on standing some time with the chalybeate, becomes darker, while that of the decoction becomes more faint. When they are of a certain age, the addition of a chalybeate renders them green; and when this is the case, they are found to be in a state of fermentation, and effete. Mild or caustic alkalies, or lime, precipitate the extractive matter, which in the case of the caustic alkali is redissolved by a farther addition of the alkali. Lime-water precipitates less from a fresh infusion than from a fresh decoction; and in the precipitate of this last some mild earth is perceptible. The infusion is by age reduced to the same state with the fresh decoction, and then they deposite nearly an equal quantity of mild earth and extractive matter; so that lime-water, as well as a chalybeate, may be used as a test of the relative strength and perishable nature of the different preparations, and of different barks. Accordingly cold infusions are found by experiments to be less perishable than decoctions; infusions and decoctions of the red bark than those of the pale; those of the red bark, however, are found by length of time to separate more mild earth with the lime water, and more extracted matter. Lime-water, as precipitating the extracted matter, appears an equally improper and disagreeable menstruum.

Water is found to suspend the resin by means of much less gum than has been supposed. Rectified spirit of wine extracts a bitterness, but no astringency, from a residuum of twenty affusions of cold water; and water extracts astringency, but no bitterness, from the residuum of as many affusions of rectified spirit. The residua in both are insipid.

From many ingenious experiments made on the Peruvian bark by Dr Irving, which are now published in a dissertation which gained the prize-medal given by the Harveian Society of Edinburgh for 1783, the power of different menstrua, as acting upon Peruvian bark, is ascertained with greater accuracy than had before been done: and it appears, that with respect to comparative power, the fluids after mentioned act in the order in which they are placed.

Dulcified spirit of vitriol.
Caustic ley.
French brandy.
Rhenish wine.
Soft water.
Vinegar and water.
Dulcified spirit of nitre.
Mild volatile alkali.
Rectified spirit of wine.
Mild vegetable alkali.
Lime-water.

The antiseptic powers of vinegar and bark united are double the sum of those taken separately. The astringent power of the bark is increased by acid of vitriol; the bitter taste is destroyed by it.

The

The officinal preparations of the bark are,

1. The powder: of this, the first parcel that passes the sieve being the most resinous and brittle layer, is the strongest.

2. The extract: the watery and spirituous extracts conjoined form the most proper preparations of this kind.

3. The resin: this cannot perhaps be obtained separate from the gummy part, nor would it be desirable.

4. Spirituous tincture: this is best made with proof-spirit.

5. The decoction: this preparation, though frequently employed, is yet in many respects inferior even to a simple watery infusion.

The best form is that of powder; in which the constituent parts are in the most effectual proportion. The cold infusion, which can be made in a few minutes by agitation, the spirituous tincture, and the extract, are likewise proper in this respect. For covering the taste, different patients require different vehicles, liquorice, aromatics, acids, port-wine, small beer, porter, milk, butter-milk, &c. are frequently employed; and those who dislike the taste of the bark itself, vary in their accounts to which the preference is due; or it may be given in form of electuary with currant-jelly, or with brandy or rum.

According to some, the Peruvians learned the use of the bark by observing certain animals affected with intermittents instinctively led to it; while others say, that a Peruvian having an ague, was cured by happening to drink of a pool which, from some trees having fallen into it, tasted of cinchona; and its use in gangrene is said to have originated from its curing one in an aguish patient. About the year 1640, the lady of the Spanish viceroy, the Comitissa del Cinchon, was cured by the bark, which has therefore been called Cortex or Pulvis Comitissæ, Cinchona, Chinachina or Chinchina, Kinakina or Kinkina, Quinaquina or Quinquina; and from the interest which the Cardinal de Lugo and the Jesuit fathers took in its distribution, it has been called Cortex or Pulvis Cardinalis de Lugo, Jesuiticus, Patrum, &c.

On its first introduction into Europe, it was reprobated by many eminent physicians; and at different periods long after, it was considered a dangerous remedy; but its character, in process of time, became very universally established.

Practitioners have differed much with regard to the mode of operation of the Peruvian bark. Some have ascribed its virtues entirely to a stimulant power. But while the strongest and most permanent stimuli have by no means the same effect with bark in the cure of diseases, the bark itself shows hardly any stimulant power, either from its action on the stomach or on other sensible parts to which it is applied. From its action on dead animal fibres, there can be no doubt of its being a powerful astringent; and from its good effects in certain cases of disease, there is reason to presume that it is a still more powerful tonic. To this tonic power some think that its action as an antiseptic is to be entirely attributed: but that, independently of this, it has a very powerful effect in resisting the septic process to which animal substances are naturally subjected, appears beyond all dispute, from its effects in resisting putrefaction, not only in dead animal solids, but even in animal fluids, when entirely detached from the living body.

But although it be admitted that the Peruvian bark acts powerfully

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as an aſtringent, as a tonic, and as an antiſeptic, yet theſe principles will by no means explain all the effects derived from it in the cure of diſeaſes. And accordingly, from no artificial combination in which theſe powers are combined, or in which they exiſt even to higher degree, can the good conſequences reſulting from Peruvian bark be obtained. Many practitioners, therefore, are diſpoſed to view it as a ſpecific. If by a ſpecific we mean an infallible remedy, it cannot indeed be conſidered as intitled to that appellation; but in as far as it is a very powerful remedy, of the operation of which no ſatisfactory explanation has yet been given, it may with great propriety be denominated a ſpecific. But whatever its mode of operation may be, there can be no doubt that it is daily employed with ſucceſs in a great variety of different diſeaſes.

It was firſt introduced, as has already been ſaid, for the cure of intermittent fevers; and in theſe, when properly exhibited, it rarely fails of ſucceſs. Practitioners, however, have differed with regard to the beſt mode of exhibition; ſome preſer giving it juſt before the fit, ſome during the fit, others immediately after it. Some, again, order it in the quantity of an ounce, between the fits; the doſe being the more frequent and larger according to the frequency of the fits; and this mode of exhibition, altho' it may perhaps ſometimes lead to the employment of more bark than is neceſſary, we conſider as upon the whole preferable, from being beſt ſuited to moſt ſtomachs. The requiſite quantity is very different in different caſes; and in many vernal intermittents it ſeems even hardly neceſſary.

It often pukes or purges, and ſometimes oppreſſes the ſtomach. Theſe, or any other effects that may take place, are to be counteracted by remedies particularly appropriated to them. Thus, vomiting is often reſtrained by exhibiting it in wine; looſeneſs by combining it with opium; and oppreſſion at ſtomach, by the addition of an aromatic. But unleſs for obviating particular occurrences, it is more ſucceſsful when exhibited in its ſimple ſtate than with any addition; and there ſeems to be little ground for believing that its powers are increaſed by crude ſal ammoniac, or any other additions which have frequently been made.

It is now given, from the very commencement of the diſeaſe, without previous evacuations, which, with the delay of the bark, or under doſes of it, by retarding the cure, often ſeem to induce abdominal inflammation, ſcirrhus, jaundice, hectic, dropſy, &c. ſymptoms formerly imputed to the premature or intemperate uſe of the bark, but which are beſt obviated by its early and large uſe. It is to be continued not only till the paroxyſms ceaſe, but till the natural appetite, ſtrength, and complexion return. Its uſe is then to be gradually left off, and repeated at proper intervals to ſecure againſt a relapſe; to which, however unaccountable, independently of the recovery of vigour, there often ſeems to be a peculiar diſpoſition; and eſpecially when the wind blows from the eaſt. Although, however, moſt evacuants conjoined with the Peruvian bark in intermittents are rather prejudicial than otherwiſe, yet it is of advantage, previous to its uſe, to empty the alimentary canal, particularly the ſtomach; and on this account good effects are often obtained from premiſing an emetic.

It is a medicine which ſeems not only ſuited to both formed and latent

tent intermittents, but to that ſtate of fibre on which all rigidly periodical diſeaſes ſeem to depend; as periodical pain, inflammation, hemorrhagy, ſpaſm, cough, loſs of external ſenſe, &c.

Bark is now uſed by ſome in all continued fevers: at the ſame time attention is paid to keep the bowels clean, and to promote when neceſſary the evacuation of redundant bile, always, however, ſo as to weaken as little as poſſible.

In confluent ſmall-pox, it promotes languid eruption and ſuppuration, diminiſhes the fever thro' the whole courſe of it, and prevents or corrects putreſcence and gangrene.

In gangrenous ſore throats it is much uſed, as it is externally and internally in every ſpecies of gangrene.

In contagious dyſentery, after due evacuation, it has been uſed by the mouth, and by injection with and without opium.

In all thoſe hemorrhagies called paſſive, and which it is allowed all hemorrhagies are very apt to become, and likewiſe in other increaſed diſcharges, it is much uſed; and in certain undefined caſes of hæmoptyſis, ſome allege that it is remarkably effectual when joined with an abſorbent.

It is uſed for obviating the diſpoſition to nervous and convulſive diſeaſes; and ſome have great confidence in it joined with the acid of vitriol, in caſes of phthiſis, ſcrophula, ill-conditioned ulcers, rickets, ſcurvy, and in ſtates of convaleſcence.

In theſe caſes in general, notwithſtanding the uſe of the acid, it is proper to conjoin it with a milk diet.

In dropſy, not depending on any particular local affection, it is often alternated or conjoined with diuretics, or other evacuants; and by its early exhibition after the water is once drawn off, or even begins to be freely diſcharged, a freſh accumulation is prevented, and a radical cure obtained. In obſtinate venereal caſes, particularly thoſe which appear under the form of pains in the bones, the Peruvian bark is often ſucceſsfully ſubjoined to mercury, or even given in conjunction with it.

PETASITIS [*Roſs.*] *Radix.*
Tuſſilago petaſitis Lin.
Butterbur; the root.

This grows wild by the ſides of ditches and in meadows: it ſends forth ſhort ſcaly ſtalks in the ſpring, bearing ſpikes of purpliſh flowers; after this the leaves appear, which are very large and hollowed about the middle, ſo as to reſemble a bonnet, or what the Greeks called πετασος, whence the name of the plant. The roots have a ſtrong ſmell; a bitteriſh, aromatic, not very agreeable taſte; they have been given in the doſe of a dram or more as an aromatic, and likewiſe as an aperient and deobſtruent; theſe virtues, however, they poſſeſs in ſo low a degree, as to have loſt their reputation in the ſhops.

PETROLEUM [*Lond.*]
Bitumen petroleum.
Rock oil.

This is a general name for ſundry liquid bitumens, or mineral oils, which ſpontaneouſly exude from the earth, or from clifts of rocks. Theſe oils are found in almoſt all countries, but in greateſt quantities in the warmer ones: ſome are met with in different parts of England; and many of our common bituminous minerals, as pitcoal, &c. afford, on diſtillation, oils not greatly different from them.

The fineſt ſort of this commodity comes from the duchy of Modena in

in Italy, where three different kinds are found; the beſt is almoſt as clear, fluid, and tranſparent as water, of a highly penetrating, yet not diſagreeable ſmell, ſomewhat like that of rectified oil of amber: the ſecond ſort is of a clear yellow colour, not ſo fluid as the former, leſs penetrating, and partaking more of the oil of amber ſmell: the third, or worſt, is of a blackiſh red colour, of a thicker conſiſtence, and more diſagreeable than the two foregoing. The firſt of theſe is very rarely met with in the ſhops; the ſecond, mixed with a little of the third and ſome ſubtile oil, is uſually ſent us inſtead of it. Petroleum readily catches fire, and, if pure, burns entirely away: diſtilled, it becomes ſemewhat more pellucid than before, a ſmall quantity of yellowiſh matter remaining, and it loſes greatly of its natural ſmell: it unites with the eſſential oils of vegetables, not at all with vinous ſpirits: the finer ſorts are ſo light as to ſwim upon the moſt highly rectified ſpirit of wine.

Petroleum is at preſent very rarely employed as a medicine, though if the finer kinds could be procured genuine, they ſhould ſeem to deſerve ſome notice: they are more agreeable than the oil of amber, and milder than that of turpentine; of the virtues of both which they participate. They are principally recommended by authors for external purpoſes, againſt pains and aches, in paralytic complaints, and for preventing chilblains. For theſe intentions, ſome of the more common mineral oils have been made uſe of with good ſucceſs; an oil extracted from a kind of ſtone-coal has been cried up among the common people, under the name of Britiſh oil, for rheumatic pains, &c. even this is often counterfeited by a ſmall portion of oil of amber added to the common expreſſed oils.

PETROLEUM BARBADENSE [*Ed.*]

Barbadoes tar.

This is thicker than the foregoing petrolea, and nearly of the conſiſtence of common tar. It is of a reddiſh black colour, a diſagreeable ſmell, leſs pungent than the other ſorts. This bitumen is found in ſeveral of our American iſlands, where it is eſteemed by the inhabitants of great ſervice as a ſudorific, and in diſorders of the breaſt and lungs; though in caſes of this kind, attended with inflammation, it is certainly improper: they likewiſe apply it externally as a diſcutient, and for preventing paralytic diſorders. Among us it is rarely uſed, and not often to be met with genuine. The London college employ it as a menſtruum for ſulphur in the *balſamum ſulphuris Barbadenſe*, and directed an oil to be diſtilled from it. But in the preſent edition of their work, the oleum petrolei, and petroleum ſulphuratum, as they are ſtyled, are directed to be prepared from petroleum, without ſpecifying that the petroleum Barbadenſe in particular is to be uſed.

PETROSELINUM [*Lond. Ed.*] *Radix, ſemen.*

Apum petroſelinum Lin.

Parſley; the root and ſeed.

This plant is commonly cultivated for culinary purpoſes. The ſeeds have an aromatic flavour, and are occaſionally made uſe of as carminatives, &c. The root of parſley is one of the five aperient roots, and with this intention is ſometimes made an ingredient in apozems and diet-drinks: if liberally uſed, it is apt to occaſion flatulencies; and thus, by diſtending the viſcera, produces

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a contrary effect to that intended by it: the taste of this root is somewhat sweetish, with a light degree of warmth and aromatic flavour.

PEUCEDANUM [*Brun.*] *Radix.*

Peucedanum officinale Lin.

Hog's fennel, or sulphurwort; the root.

This plant grows wild by the sea shores, and in moist shady places. The roots have a strong disagreeable smell, somewhat resembling that of sulphureous solutions; and an unctuous, subacrid, bitterish taste. They are looked upon as stimulating and attenuating, and supposed to promote expectoration and urine: the expressed juice was employed by the ancients as an errhine in lethargic disorders. The present practice pays no regard to them with any intention.

PIMENTA [*Lond Ed.*] *Bacca.*

Myrtus pimenta Lin.

Pimento, or Jamaica pepper; the berry.

This is the fruit of a large tree growing spontaneously in the mountainous parts of Jamaica, called by Sir Hans Sloan *myrtus arborea aromatica, foliis laurinis.* The smell of this spice resembles a mixture of cinnamon, cloves, and nutmegs: its taste approaches to that of cloves, or a mixture of the three foregoing; whence it has received the name of *all spice.* The shops have been for some time accustomed to employ this aromatic as a succedaneum to the more costly spices, and from them it has been introduced into our hospitals.

Pimento is now in our pharmacopœias the basis of a distilled water, a spirit, and an essential oil; and these are not unfrequently employed where aromatics are indicated.

PIMPINELLA [*Ed.*] *Radix.*

Pimpinella saxifraga Lin.

Burnet-saxifrage; the root.

Of this plant several varieties had formerly a place in our pharmacopœias: but all of them seem to be possessed of the same qualities, and to differ only in external appearance; and even in this, their difference is so inconsiderable, that Linnæus has joined them into one, under the general name of *pimpinella.*

The roots of pimpinella have a grateful, warm, very pungent taste, which is entirely extracted by rectified spirit: in distillation, the menstruum arises, leaving all that it had taken up from the root, united into a pungent aromatic resin. This root promises, from its sensible qualities, to be a medicine of considerable utility; though little regarded in common practice. Stahl, Hoffman, and other German physicians, are extremely fond of it, and recommend it as an excellent stomachic, resolvent, detergent, diuretic, diaphoretic, and alexipharmac. They frequently gave it, and not without success, in scorbutic and cutaneous disorders, tumours and obstructions of the glands, and diseases proceeding from a deficiency of the fluid secretions in general. Boerhaave directs the use of this medicine in asthmatic and hydropic cases, where the strongest resolvents are indicated: the form he prefers is a watery infusion; but the spirituous tincture possesses the virtues of the root in much greater perfection.

PIPER INDICUM [*Lon. Ed.*] *Fructus.*

Capsicum annuum Lin.

Guinea-pepper, or capsicum; the fruit.

This is an annual plant cultivated in our gardens; it ripens its red pods in September or October.

The taste of capsicum is extremely pungent and acrimonious, setting the mouth as it were on fire. It is chiefly employed for culinary purposes, and has long been used in that way; but of late it has been employed also in the practice of medicine. And there can be little doubt that it furnishes us with one of the purest and strongest stimulants which can be introduced into the stomach; while at the same time it has nothing of the narcotic effect of ardent spirit. Dr Adair Makitrick, who was perhaps the first that employed it as a medicine, directs its being given to the extent of six or eight grains under the form of pills, or under the form of tincture made by infusing half an ounce in a pound of rectified spirit, and giving this from one to three drams diluted for a dose. He has found it useful in a variety of affections, particularly in that morbid disposition which he calls the *cachexia Africana*, and which he considers as a most frequent and fatal predisposition to disease among the slaves. This pepper has also been of late successfully employed in a species of cynanche maligna, which proved very fatal in the West-Indies, resisting the use of Peruvian bark, wine, and the other remedies commonly employed.

A species of it called in the West Indies *bird pepper*, is the basis of a powder brought us from thence under the name of *Cayan pepper*.

PIPER LONGUM [*Lond. Ed.*]
Fructus.
Piper longum Lin.
Long pepper.

Long pepper is the fruit of a plant growing in the East-Indies. It is of a cylindrical figure, about an inch and a half in length; the external surface appears composed of numerous minute grains disposed round the fruit in a kind of spiral direction.

PIPER NIGRUM [*Lond. Ed.*]
Bacca.
Piper nigrum Lin.
Black pepper; the berry.

Black pepper is the fruit of a plant growing in Java and Malabar, gathered probably before it be fully ripe, and exsiccated in the sun. This is the only spice which we import directly from the East-Indies; all the others coming through the hands of the Dutch.

All the species of pepper have a pungent smell, and a very hot biting taste. The long sort, which is the hottest and strongest, is most frequently made use of for medicinal purposes; the black, as being more grateful, for culinary ones. The warmth and pungency of these spices reside chiefly in their resinous part; their aromatic odour in an essential oil. The genuine distilled oil smells strong of the pepper, but has very little acrimony; the remaining decoction inspissated, yields an extract considerably pungent. A tincture made in rectified spirit is extremely hot and fiery; a few drops of it set the mouth as it were in a flame

PIX BURGUNDICA [*Lond. Ed.*]
Pinus abies Lin.
Bugundy pitch.

This is of a solid consistence, yet somewhat soft, of a reddish brown colour, and not disagreeable in smell. Geoffroy relates, that it is composed of galipot (a solid whitish resin which separates from some of the *terebinthinæ* as they run from the tree) melted with common turpentine and a little of its distilled oil. Dale informs us, from the relation of a gentleman who saw the prepa-

ration of this commodity in Saxony, (from whence we are chiefly supplied with it), that it is no more than the common turpentine boiled a little.

It is employed only externally. It was formerly an ingredient in several ointments and plasters, but from these it is now rejected. And it is at present chiefly employed with the view of acting as an emplastrum calidum. In some cases it excites even vesications; but in general it produces only redness of the part to which it is applied, with a slight degree of moisture exuding from it. But even from this topical action it is often serviceable in cases of cough and similar affections.

PIX LIQUIDA [*Lond. Ed.*]
Pinus sylvestris Lin.
Tar.

This is a thick black unctuous substance, obtained from old pines and fir-trees, by burning them with a close smothering heat. It differs from the native resinous juice of the trees, in having received a disagreeable empyreumatic quality from the fire; and in containing a proportion of the saline and other juices united with the resinous and oily. By the mediation of these, a part of the terebinthinate oil proves dissoluble in aqueous liquors, which extract little or nothing from the purer turpentines. Water impregnated with the more soluble parts of tar, proves, in consequence of this hot, pungent oil, warm and stimulating. It has been said not only to raise the pulse and quicken circulation, but to increase the vis vitæ; and at one time it was highly extolled as a remedy of the utmost utility, particularly in cold phlegmatic habits. It is now, however, very generally allowed, that it is by no means intitled to the high character which was once given of it, and at present it is very little employed.

PLANTAGO [*Ed.*] *Folia.*
Plantago major Lin.
Common great plantane; the leaves.

This species of plantane is called *septinervia*, from its having seven large nerves or ribs running along each leaf; the narrow leaved sort has only five ribs, and hence it is named *quinquenervia*: they are both common in fields and by road sides. The leaves are lightly astringent, and the seeds said to be so; and hence they stand recommended in hemorrhagies and other cases where medicines of this kind are proper. The leaves bruised a little are the usual application of the common people to slight flesh wounds.

Plantane has been alleged to be a cure for the bite of the rattlesnake: but for this there is probably but little foundation, although it is one of the principal ingredients in the remedy of the Negro Cæsar, for the discovery of which he received a considerable reward from the assembly of South Carolina.

PLUMBUM [*Lond.*]
Lead.

This is the heaviest of the metals except gold: it melts in a moderate heat, and if kept in fusion, is soon converted partly into fume, and partly into an ash-coloured calx (*plumbum ustum*); this exposed to a stronger fire, in such a manner that the flame may play upon its surface, becomes first yellow, and afterwards of a deep red (*minium* or red lead): if in this process the fire be suddenly raised to a considerable height, the calx melts, assumes the appearance of oil, and on cooling forms a soft leafy substance of a yellowish or reddish colour (*litharge*). The proper menstruum

ſtruum of this metal is aquafortis: the vegetable acids likewiſe diſſolve it, but in very ſmall quantity: a quart of diſtilled vinegar will not take up a dram; expoſed to the ſteam of vinegar, it is by degrees corroded into a white powder (*ceruſſe*) which is conſiderably more eaſy of ſolution. The calces of lead diſſolve by heat, in expreſſed oils; theſe mixtures are the baſis of ſeveral officinal plaſters and unguents. Cryſtals of this metal made with diſtilled vinegar (called, from their ſweetiſh taſte, *ſugar* of lead; but more properly *plumbum acetatum* or *ceruſſa acetata*) are likewiſe kept in the ſhops.

Preparations of lead, given internally, are ſuppoſed to incraſſate the fluids, abate inflammations, and reſtrain venereal deſires. The ſugar is a ſtrong aſtringent, and has been uſed, it is ſaid, with good ſucceſs in hemorrhagies, the fluor albus, ſeminal gleets, &c. A tincture is recommended for the like purpoſes; and for checking immoderate ſweats in phthiſical caſes; whence it has been uſually called *tinctura antiphthiſica*. The internal uſe of this metal is nevertheleſs full of danger, and ought never to be ventured upon unleſs in deſperate caſes, after other medicines have been employed without taking effect: it often occaſions violent colics; and though it ſhould not prove immediately hurtful, its ill conſequences are ſure, though ſlow: tremors, ſpaſms, or lingering tabes, too frequently follow.

The preparations of lead with vinegar are much uſed externally in inflammation.

POLYPODIUM [*Suec.*] *Radix.*
Polypodium vulgare Lin.
Polypody; the root.

Polypody is a capillary plant, growing upon old walls, the trunks of decayed trees, &c. That found upon the oak is generally preferred, though not ſenſibly different from the others. The roots are long and ſlender, of a reddiſh brown colour on the outſide, greeniſh within, full of ſmall tubercles, which are reſembled to the feet of an inſect; whence the name of the plant: the taſte of theſe roots is ſweetiſh and nauſeous.

Polypody has been employed in medicine for many ages; nevertheleſs its virtues remain as yet to be determined. The ancients held it to be a powerful purger of melancholic humours; by degrees, it came to be looked upon as an evacuator of all humours in general: at length it was ſuppoſed only to gently looſen the belly; and afterwards even this quality was denied it: ſucceeding phyſicians declared it to be aſtringent; of this number is Boerhaave, who eſteems it moderately ſtyptic and antiſcorbutic. For our own part we have had no direct experience of it, nor is it employed in practice: it is probable that (as Juncker ſuppoſes) the freſh root may looſen the belly, and that it has not this effect when dry.

POMPHOLYX [*Suec.*]

This is an impure calx of zinc, produced in the furnaces where copper is made into braſs by calamine, the ore of zinc. It is found adhering to the covers of the crucibles, &c. either in form of thin cruſts, or of a light downy matter, generally of a pure white colour, tho' ſometimes yellowiſh.

POPULUS [*Brun.*] *Gemmæ.*
Populus niger Lin.
The black poplar; its buds.

The black poplar is a large tree, growing wild in watery places; it is eaſily raiſed, and very quick of growth. The young buds or rudi-

ments of the leaves, which appear in the beginning of ſpring, abound with a yellow, unctuous, odorous juice. They have hitherto been employed chiefly in an ointment, which received its name from them; tho' they are certainly capable of being applied to other purpoſes: a tincture of them made in rectified ſpirit yields upon being inſpiſſated a fragrant reſin ſuperior to many of thoſe brought from abroad.

PORTULACA [*Brun.*] *Herba, ſemen.*
Portulaca oleracea Lin.
Purſlane; the herb and ſeed.

This herb is cultivated in gardens for culinary uſes. The ſeeds are ranked among the leſſer cold ſeeds, and have ſometimes been employed in emulſions and the like, along with the others of that claſs.

PRIMULA [*Suec.*] *Flores, radix.*
Primula veris Lin.
Primroſe, the flower and root.

This is a low plant, growing wild in woods and hedges, and producing pale yellow flowers in the ſpring. The leaves have an herbaceous taſte. The roots are lightly bitter, with a kind of aromatic flavour, which ſome reſemble to that of aniſeſeeds; their expreſſed juice, purified by ſettling, is ſometimes uſed as a ſternutatory. The flowers have an agreeable flavour, but very weak: an infuſion of them in wine, and a ſpirit diſtilled from them, are employed in ſome places as cordial and nervine.

PRUNELLA [*Brun.*] *Herba.*
Prunella vulgaris Lin.
Self-heal; the leaves.

This plant grows wild in meadows and paſture grounds, and produces thick ſpikes of purpliſh flowers during the latter part of the ſummer. It has an herbaceous roughiſh taſte: and hence ſtands recommended in hemorrhagies and alvine fluxes: it has been principally celebrated as a vulnerary, whence its name; and in gargariſms for aphthæ, and inflammations of the fauces.

PRUNUM GALLICUM [*Lond.*] *Fructus.*
Prunus domeſtica Lin.
The common prune.

The medical effects of the common prunes are, to abate heat, and gently looſen the belly: which they perform by lubricating the paſſage, and ſoftening the excrement. They are of conſiderable ſervice in coſtiveneſs, accompanied with heat or irritation, which the more ſtimulating cathartics would tend to aggravate: where prunes are not of themſelves ſufficient, their effects may be promoted by joining with them a little rhubarb or the like; to which may be added ſome carminative ingredient to prevent their occaſioning flatulencies.

PRUNUM SYLVESTRE [*Lond.*]
Prunus ſpinoſa Lin.
The ſloe.

Theſe have a very rough, auſtere taſte, eſpecially before they have been mellowed by froſts. The juice of the unripe fruit, inſpiſſated to a proper conſiſtence, is called *acacia Germanica*, and uſually ſold in the ſhops for the true Egyptian acacia: it is equally aſtringent with the Egyptian ſort; but has more of a ſharp or tartiſh taſte, without any thing of the ſweetiſh reliſh of the other. A conſerve of the fruit is directed by the London college.

PSYLLIUM [*Suec.*] *Semen.*
Plantago pſyllium Lin.
Fleawort; the ſeeds.

This

This is a ſort of plantane, growing wild in the warmer climates, and ſometimes met with in our gardens: it differs from the common plantanes in having its ſtalks branched, with leaves upon them; hence it is named by Ray *plantago cauliſera.* The ſeeds have been uſually brought from the ſouth of France; they are ſmall, but ſuppoſed to reſemble in ſhape a flea, whence the Engliſh name of the plant. Theſe ſeeds have a nauſeous, mucilaginous taſte: boiled in water, they yield a conſiderable quantity of mucilage, which is ſometimes made uſe of in emollient glyſters and the like. Alpinus relates, that among the Egyptians this mucilage is given in ardent fevers, and that it generally either looſens the belly or promotes ſweat.

PTARMICA [*Brun.*] *Radix.*
Achillea ptarmica Lin.
Sneeze-wort; the root.

This grows wild upon heaths and in moiſt ſhady places; the flowers, which are of a white colour, come forth in June and July. The roots have an acrid ſmell, and a hot biting taſte: chewed they occaſion a plentiful diſcharge of ſaliva; and when powdered and ſnuffed up the noſe, provoke ſneezing. Theſe are the only intentions to which they have been uſually applied.

PULEGIUM [*Lond. Ed.*] *Herba, flos.*
Mentha pulegium Lin.
Penny-royal; the flower.

This plant grows ſpontaneouſly in ſeveral parts of England upon moiſt commons, and in watery places; trailing upon the ground, and ſtriking roots at the joints. Our markets have been for ſome time ſupplied with a garden ſort, which is larger than the other, and grows upright.

Pennyroyal is a warm, pungent herb, of the aromatic kind, ſimilar to mint, but more acrid and leſs agreeable: it has long been held in great eſteem as an aperient and deobſtruent, particularly in hyſteric complaints, and ſuppreſſions of the uterine purgations. For theſe purpoſes, the diſtilled water is generally made uſe of, or an infuſion of the leaves. It is obſervable, that both water and rectified ſpirit extract the virtues of this herb by infuſion, and likewiſe elevate the greateſt part of them in diſtillation.

In the ſhops are kept a ſimple water, a ſpirit, and an eſſential oil obtained from this vegetable. But under any form it is now leſs frequently employed than formerly.

PULMONARIA MACULOSA [*Brun.*] *Herba.*
Pulmonaria officinalis Lin.
Spotted long-wort; the leaves.

This is met with in our gardens: the leaves are of a green colour ſpotted with white; of an herbaceous ſomewhat mucilaginous taſte, without any ſmell. They ſtand recommended againſt ulcers of the lungs, phthiſis, and other ſimilar diſorders: experience, however, gives little countenance to theſe virtues, nor does the preſent practice expect them.

PULSATILLA NIGRICANS [*Ed.*] *Herba cum flore.*
Anemone pratenſis Lin.
Meadow anemone,

This is the moſt acrid of the anemonies; and is recommended by Dr Stoerk, in the quantity of half an ounce of the diſtilled water, or five grains of the extract, twice or thrice a-day in venereal nodes, pains, ulcers with caries, chronic eruptions, amenorrhœa, various chronic affections of the eye, particularly blindneſs from obſcurities of the cornea. Its common effects are nauſea

ſea or vomiting, an augmented diſcharge of urine, diarrhœa, and increaſed pain at firſt in the affected part.

PYRETHRUM [*Lond. Ed.*] *Radix.*

Anthemis pyrethrum Lin.

Pellitory of Spain; the root.

This plant, though a native of the warm climates, bears the ordinary winters of this, and often flowers ſucceſſively from Chriſtmas to May; the roots alſo grow larger with us than thoſe with which the ſhops are uſually ſupplied from abroad.

Pellitory root has no ſenſible ſmell; its taſte is very hot and acrid, but leſs ſo than that of arum; the juice expreſſed from it has ſcarce any acrimony, nor is the root itſelf ſo pungent when freſh as after it has been dried Water, aſſiſted by heat, extracts ſome ſhare of its taſte; rectified ſpirit, the whole; neither of them elevate any thing in diſtillation. The principal uſe of pyrethrum in the preſent practice is as a maſticatory, for promoting the ſalival flux, and evacuating viſcid humours from the head and neighbouring parts; by this means it often relieves the toothach, ſome kinds of pains of the head, and lethargic complaints.

QUASIA [*Lond. Ed.*] *Lignum, cortex, radix.*

Quaſia amara Lin.

Quaſſy; the wood, bark, and root.

This root is about the thickneſs of a man's arm; its wood is whitiſh, becoming yellowiſh by expoſure to the air. It has a thin, grey, fiſſured brittle bark, which is deemed in Surinam more powerful than the wood. Quaſſy has no ſenſible odour, but is one of the moſt intenſe, durable, pure bitters known. Its infuſion, decoction, and tincture, are almoſt equally bitter and yellowiſh, and not blackened by a chalybeate.

It was much uſed in a fatal fever in Surinam, and is ſaid to be effectual in ſuppreſſing vomiting.

It is ſaid to be leſs antiſeptic than Peruvian bark; but, like colombo, another pure bitter, it preſerves bile longer from putrefaction. The beſt form is that of pills of the extract.

QUERCUS [*Lond. Ed.*] *Cortex.*

Quercus robur Lin

Oak tree; the bark.

This bark is a ſtrong aſtringent; and hence ſtands recommended in hæmorrhagies, alvine fluxes, and other preternatural or immoderate ſecretions; and in theſe it is ſometimes attended with good effects. Some have alleged, that by the uſe of this bark every purpoſe can be anſwered which may be obtained from Peruvian bark. But after ſeveral very fair trials, we have by no means found this to be the caſe.

RADIX INDICA LOPEZIANA [*Ed.*]

Radix Indica a Joanne Lopez denominata, Gaubii Adverſaria.

Indian or Lopez root.

The tree is unknown. Neither the woody nor cortical part of the root has any remarkable ſenſible quality. A ſlight bitterneſs is perceptible, and it is recommended, like ſimarouba, in diarrhœas even of the colliquative kind, in half-dram doſes four times a-day. Little of this root has been brought to Europe: but ſome of thoſe who have had an opportunity of employing it, ſpeak in very high terms of the effects obtained from it.

RAPHANUS

RAPHANUS RUSTICANUS [*Lond. Ed.*] *Radix.*

Cochlearia armorica Lin.

Horse-radish root.

This plant is sometimes found wild about river-sides, and other moist places; for medicinal and culinary uses, it is cultivated in gardens; it flowers in June, but rarely perfects its seeds in this country. Horse-radish root has a quick pungent smell, and a penetrating acrid taste; it nevertheless contains in certain vessels a sweet juice, which sometimes exudes upon the surface. By drying, it loses all its acrimony, becoming first sweetish, and afterwards almost insipid: if kept in a cool place, covered with sand, it retains its qualities for a considerable time. The medical effects of this root are, to stimulate the solids, attenuate the fluids, and promote the fluid secretions: it seems to extend its action through the whole habit, and affect the minutest glands. It has frequently done service in some kinds of scurvies and other chronic disorders, proceeding from a viscidity of the juices, or obstructions of the excretory ducts. Sydenham recommends it likewise in dropsies, particularly those which sometimes follow intermittent fevers. Both water and rectified spirit extract the virtues of this root by infusion, and elevate them in distillation: along with the aqueous fluid, an essential oil arises, possessing the whole taste and pungency of the horse-radish. From this root, the spiritus raphani compositus derives its name, and no inconsiderable share of its activity.

REALGAR, a fossil composed of arsenic and sulphur. Vide ARSENICUM.

RESINA ALBA. Vide TEREBINTHINA.

RHABARBARUM [*Lond. Ed.*] *Radix.*

Rheum palmatum Lin.

Rhubarb; the root.

This plant, which is of the dock kind, grows spontaneously in China, and endures the colds of our own climate. Two sorts of rhubarb are met with in the shops. The first is imported from Turkey and Russia, in roundish pieces freed from the bark, with a hole through the middle of each; they are externally of a yellow colour, and on cutting appear variegated with lively reddish streaks. The other, which is less esteemed, comes principally from China in longish pieces, harder, heavier, and more compact than the foregoing. The first sort, unless kept very dry, is apt to grow mouldy and worm-eaten; the second is less subject to these inconveniences. Some of the more industrious artists are said to fill up the worm-holes with certain mixtures, and to colour the outside of the damaged pieces with powder of the finer sorts of rhubarb, and sometimes with cheaper materials: this is often so nicely done, as effectually to impose upon the buyer, unless he very carefully examines each piece. The marks of good rhubarb are, that it be firm and solid, but not flinty; that it be easily pulverable, and appear, when powdered, of a fine bright yellow colour: that upon being chewed, it impart to the spittle a saffron tinge, without proving slimy or mucilaginous in the mouth. Its taste is subacrid, bitterish, and somewhat astringent: the smell lightly aromatic.

Rhubarb is a mild cathartic, which operates without violence or irritation, and may be given with safety even to pregnant women and to children. In some people, however, it always occasions severe griping. Besides its purgative quality,

it is celebrated for an aſtringent one, by which it ſtrengthens the tone of the ſtomach and inteſtines, and proves uſeful in diarrhœa and diſorders proceeding from a laxity of the fibres. Rhubarb in ſubſtance operates more powerfully as a cathartic than any of the preparations of it. Watery tinctures purge more than the ſpirituous ones; whilſt the latter contain in greater perfection the aromatic, aſtringent, and corroborating virtues of the rhubarb. The doſe, when intended as a purgative, is from a ſcruple to a dram or more.

The Turkey rhubarb is, among us, univerſally preferred to the Eaſt-India ſort, though this laſt is for ſome purpoſes at leaſt equal to the other; it is manifeſtly more aſtringent, but has ſomewhat leſs of an aromatic flavour. Tinctures drawn from both with rectified ſpirit, have nearly the ſame taſte: on diſtilling off the menſtruum, the extract left from the tincture of the Eaſt-India rhubarb proved conſiderably the ſtrongeſt. They are both the produce of the ſame climate, and probably the roots of the ſame plant taken up at different ſeaſons, or cured in a different manner.

Rhubarb is now raiſed in Britain equal to any that is imported.

The officinal preparations of this drug are, a watery and a vinous infuſion, a ſimple and a compound tincture. It is alſo an ingredient in different compoſitions, ſuch as the elexir ex aloe et rheo, the pilulæ ſtomachicæ, and ſome others.

RHAMNUS CATHARTICUS. Vide SPINA CERVINA.

RHAPONTICUM [*Roſs.*] *Radix.*

Rheum raponticum Lin.

Rhapontic; the roots.

Rhapontic is a large roundiſh-leaved plant, growing wild on the mountain Rhodope in Thrace, from whence it was brought into Europe, about the year 1610, by Alpinus: it bears the hardeſt winters of this climate, and is not unfrequent in our botanic gardens. The root of this plant (which appears evidently to have been the rhubarb of the ancients) is by ſome confounded with the modern rhubarb, though conſiderably different both in appearance and quality. The rhapontic is of a duſky colour on the ſurface, of a looſe ſpongy texture; conſiderably more aſtringent, but leſs purgative than rhubarb; with this laſt intention, two or three drams are required for a doſe.

RHODODENDRON [*Ed.*] *Herba.*

Rhododendron chryſanthum Lin.

Rhododendron; the herb.

This plant is a native of Siberia, where a weak infuſion of it is uſed as tea. The Siberians uſe a kind of decoction of it in rheumatiſm and gout. They put about two drams of the dried ſhrub in an earthen pot, with about ten ounces of boiling water, keeping it near a boiling heat for a night, and this they take in the morning. It is ſaid to occaſion heat, thirſt, a degree of delirium, and a peculiar creeping-like ſenſation in the parts affected. The uſe of liquids is not allowed during its operation, as this is apt to induce vomiting. In a few hours the pain and diſagreeable ſymptoms are relieved, and it is ſaid two or three doſes generally complete the cure. The powder has alſo been uſed in doſes of a few grains.

Hitherto it has been ſo little employed in Britain, that it has no place in the London pharmacopœia: But in ſome caſes in which it has been uſed at Edinburgh, it has been productive of good effects; and accordingly

cordingly it is now introduced into the Edinburgh pharmacopœia, as well as into the Pharmacopœia Rossica, where it had first a place.

RIBES NIGRUM [*Lond.*] *Fructus.*
Ribes nigrum Lin.
Black currants.

RIBES RUBRUM [*Lond.*] *Fructus.*
Ribes rubrum Lin.
Red currants; the berry.

These have a cool acidulous sweet taste, sufficiently agreeable both to the palate and stomach.

The black currants are the basis of an officinal syrup, and an inspissated juice, which are frequently employed with advantage in recent catarrhs, attended with slight sore throat.

RICINUS [*Lond. Ed.*] *Semen.*
Ricinus communis Lin.
Palma Christi; the seed.

These seeds are nuts about the size of small beans: and are, like the bitter almonds, deleterious. The oil, commonly called nut or castor oil. is got by expression, retains somewhat of the mawkishness and acrimony of the nut: but is, in general, a safe and mild laxative in cases where we wish to avoid irritation, as in those of colic, calculus, gonorrhœa, &c. and some likewise use it as a purgative in worm-cases. Half an ounce or an ounce commonly answers with an adult, and a dram or two with an infant.

An oil of an inferior kind, but possessing nearly the same qualities, is obtained by boiling.

With many, the aversion to oil in its pure state is so great, that this purgative cannot be taken without great reluctance; and accordingly different modes of taking it have been proposed. Some prefer taking it swimming on a glass of water or peppermint water, or in the form of mulsion, with mucilage, or with the addition of a little rum. Sometimes it is necessary to increase its activity by the addition of some other purgative: And with this view, nothing answers better than a small quantity of tincture of jalap, or compound tincture of senna.

ROSA DAMASCÆNA [*Lon. Ed.*] *Petalum.*
Rosa centifolia Lin.
The damask rose; the petal.

This elegant flower is common in our gardens. Its smell is very pleasant and almost universally admired; its taste bitterish and subacrid. In distillation with water, it yields a small portion of a butyraceous oil, whose flavour exactly resembles that of the roses. This oil, and the distilled water, are very useful and agreeable cordials. Hoffman strongly recommends them as of singular efficacy for raising the strength, cheering and recruiting the spirits, and allaying pain; which they perform without raising any heat in the constitution, rather abating it when inordinate. Damask roses, besides their cordial aromatic virtue, which resides in their volatile parts, have a mildly purgative one, which remains entire in the decoction left after the distillation: this, with a proper quantity of sugar, forms an agreeable laxative syrup, which has long kept its place in the shops.

ROSA RUBRA [*Lond. Ed.*] *Petalum.*
Rosa gallica Lin.
The red rose; the petal.

This has very little of the fragrance of the foregoing pale sort; and instead of its purgative quality, a mild gratefully astringent one, especially before the flower has opened: this is considerably improved by hasty

hasty exsiccation; but both the astringency and colour are impaired by slow drying. In the shops are prepared a conserve, an infusion, a honey, and a syrup of this flower.

ROSMARINUS [*Lond. Ed.*] *Cacumen, flos.*

Rosmarinus officinalis Lin.

Rosemary; the top and flower.

This is a native of Spain, Italy, and the southern parts of France, where it grows in great abundance upon dry gravelly grounds; in the like soils it thrives best with us, and likewise proves stronger in smell than when produced in moist rich ones: this observation obtains in almost all the aromatic plants.

Rosemary has a fragrant smell, and a warm pungent bitterish taste, approaching to those of lavender: the leaves and tender tops are strongest; next to these the cup of the flower; the flowers themselves are considerably the weakest, but most pleasant. Aqueous liquors extract a great share of the virtues of rosemary leaves by infusion, and elevate them in distillation; along with the water arises a considerable quantity of essential oil, of an agreeable strong penetrating smell. Pure spirit extracts in great perfection the whole aromatic flavour of the rosemary, and elevates very little of it in distillation: hence the resinous mass left upon abstracting the spirit, proves an elegant aromatic, very rich in the peculiar qualities of the plant. The flowers of rosemary give over great part of their flavour in distillation with pure spirit; by watery liquors, their fragrance is much injured; by beating, destroyed. The officinal preparations of rosemary are, an essential oil, and a spirit commonly known by the title of *Hungary water;* the tops are also an ingredient in the compound tincture of lavender, and some other formulæ.

RUBIA [*Lond. Ed.*] *Radix.*

Rubia tinctorum Lin.

Madder; the root.

Madder is raised in some of our gardens for medicinal purposes: it was formerly cultivated among us, in quantity, for the use of the dyers, who are at present supplied from Holland and Zealand. It has little or no smell, and a sweetish taste, mixed with a little bitterness. The virtues attributed to it are those of a detergent and aperient; whence it has been usually ranked among the opening roots, and recommended in obstructions of the viscera, particularly of the kidneys, in coagulations of the blood from falls or bruises, in the jaundice, and beginning dropsies.

It is observable, that this root, taken internally, tinges the urine of a deep red colour; and in the Philosophical Transactions, we have an account of its producing a like effect upon the bones of animals who had it mixed with their food: all the bones, particularly the more solid ones, were changed, both externally and internally, to a deep red, but neither the fleshy or cartilaginous parts suffered any alteration: some of these bones macerated in water for many weeks together, and afterwards steeped and boiled in spirit of wine, lost none of their colour, nor communicated any tinge to the liquors. The colouring part of this root appears therefore to be possessed of great subtility of parts; whence its medical virtues seem to deserve inquiry.

Some use it in half-dram doses several times a day as an emmenagogue.

RUBUS IDÆUS [*Lond*] *Fructus.*

Rubus idæus Lin.

Raspberry; the fruit.

This

This ſhrub is common in our gardens; and has likewiſe, in ſome parts of England, been found wild: it flowers in May; and ripens its fruit in July. Raſpberries have a pleaſant ſweet taſte, accompanied with a peculiarly grateful flavour; on account of which they are chiefly valued. As to their virtues, they moderately quench thirſt, abate heat, ſtrengthen the viſcera, and promote the natural excretions. An agreeable ſyrup, prepared from the juice, is directed to be kept in the ſhops.

RUBUS NIGER [*Roſs.*] *Bacca.*

Rubus fruticoſus Lin.

The bramble; the fruit.

This ſhrub is frequently found wild in woods and hedges. The berries have a faint taſte, without any thing of the agreeable flavour of the foregoing: the leaves are ſomewhat aſtringent.

They enter no officinal compoſition, are rarely directed in practice, and hence have now no place in our pharmacopœias.

RUSCUS [*Brun.*] *Radix.*

Ruſcus aculeatus Lin.

Butchers broom; the root.

This is a ſmall prickly plant, ſometimes found wild in woods. The root has a ſoft ſweetiſh taſte, which is followed by a bitteriſh one: it is one of the five aperient roots; and with this intention is ſometimes made an ingredient in apozems and diet-drinks, for opening ſlight obſtructions of the viſcera, purifying the blood and juices, and promoting the fluid ſecretions.

RUTA [*Lond. Ed.*) *Herba.*

Ruta graveolens Lin.

Rue; the herb.

This is a ſmall ſhrubby plant, met with in gardens, where it flowers in June, and holds its green leaves all the winter: we frequently find in the markets a narrow-leaved ſort, which is cultivated by ſome in preference to the other, on account of its leaves appearing variegated during the winter with white ſtreaks

Rue has a ſtrong ungrateful ſmell, and a bitteriſh, penetrating taſte: the leaves, when in full vigour, are extremely acrid, inſomuch as to inflame and bliſter the ſkin, if much handled. With regard to their medicinal virtues, they are powerfully ſtimulating, attenuating, and detergent; and hence, in cold phlegmatic habits, they quicken the circulation, diſſolve tenaceous juices, open obſtructions of the excretory glands, and promote the fluid ſecretions. The writers on the materia medica in general have entertained a very high opinion of the virtues of this plant. Boerhaave is full of its praiſes; particularly of the eſſential oil, and the diſtilled water cohobated or rediſtilled ſeveral times from freſh parcels of the herb: after ſomewhat extravagantly commending other waters prepared in this manner, he adds, with regard to that of rue, that the greateſt commendations he can beſtow upon it fall ſhort of its merit: "What medicine (ſays he) can be more efficacious for promoting ſweat and perſpiration, for the cure of the hyſteric paſſion, and of epilepſies, and for expelling poiſon." Whatever ſervice rue may be of in the two laſt caſes, it undoubtedly has its uſe in the others: the cohobated water, however, is not the moſt efficacious preparation of it. An extract made by rectified ſpirit contains, in a ſmall compaſs, the whole virtues of the rue; this menſtruum taking up by infuſion all the pungency and flavour of the plant, and elevating nothing in diſtillation. With water, its peculiar flavour and warmth

warmth arife; the bitternefs, and a confiderable fhare of the pungency, remaining behind.

The only officinal preparation of rue now retained in our pharmacopœias is the extract: but it is an ingredient in the compound powder of myrrh, and fome other compofitions.

SABINA [*Lond. Ed.*] *Folium, Juniperus fabina Lin.*
Juniper; the leaf.

This is an evergreen fhrub, cloathed with fmall, fomewhat prickly, leaves: it does not produce fruit till very old, and hence has been generally reputed barren. The leaves have a bitter, acrid, biting tafte; and a ftrong difagreeable fmell: diftilled with water, they yield an effential oil, in larger quantity, as Hoffman obferves, than any other known vegetable, the turpentine-tree alone excepted.

Savin is a warm irritating aperient medicine, capable of promoting fweat, urine, and all the glandular fecretions. The diftilled oil is one of the moft powerful emmenagogues; and is found of fervice in obftructions of the uterus or other vifcera, proceeding from a laxity and weaknefs of the veffels, or a fluggifh indifpofition of the juices.

The powder is fometimes ufed for confuming venereal warts.

The effential oil and a watery extract are kept in the fhops; and, as well as the rue, the favin is likewife an ingredient in the compound powder of myrrh.

SACCHARUM NON PURIFICATUM [*Lond.*]
Brown fugar.

SACCHARUM PURIFICATUM, five Bis coctum [*Lond.*]
Double refined fugar.

SACCHARUM CANTUM ALBUM et RUBRUM [*Rofs.*]
Sugar-candy, white and brown.

Sugar is the effential falt of the *arundo faccharifera*, a beautiful large cane growing fpontaneoufly in the Eaft-Indies, and fome of the warmer parts of the Weft, and cultivated there in great quantity. The expreffed juice of the cane is clarified with the addition of lime-water, without which it does not affume the form of a true fugar, and boiled down to a due confiftence; when, being removed from the fire, the faccharine part concretes from the groffer unctuous matter, called *treacle* or *melaffes*. This, as yet impure or brown fugar, is farther purified, in conical moulds, by fpreading moift clay on the upper broad furface: the watery moifture, flowly percolating through the mafs, carries with it a confiderable part of the remains of the treacly matter. This clayed fugar, imported from America, is by our refiners diffolved in water, the folution clarified by boiling with whites of eggs and defpumation, and after due evaporation poured into moulds: as foon as the fugar has concreted, and the fluid part ftrained off, the furface is covered with moift clay as before. The fugar, thus once refined, by a repetition of the proceefs becomes the double-refined fugar of the fhops. The candy, or cryftals, are prepared by boiling down folutions of fugar to a certain pitch, and then removing them into a hot room, with ticks fet acrofs the veffel for the fugar to fhoot upon: thefe cryftals prove of a white or brown colour, according as the fugar was pure or impure.

The ufes of fugar as a fweet are fufficiently well known. The impure forts contain an unctuous or oily matter,

matter; in consequence of which they prove emollient and laxative. The crystals are most difficult of solution; and hence are propereſt where this soft lubricating sweet is wanted to dissolve slowly in the mouth.

SAGAPENUM [*Lond. Ed.*].
Gummi resinæ.
Sagapenum, the gum resin.

This is a concrete juice brought from Alexandria, either in distinct tears, or run together in large masses. It is outwardly of a yellowish colour; internally, somewhat paler, and clear like horn; it grows soft upon being handled, and sticks to the fingers: its taste is hot and biting; the smell disagreeable, by some resembled to that of a leek, by others to a mixture of asafœtida and galbanum.

Sagapenum is an useful aperient and deobstruent; and not unfrequently prescribed either alone or in conjunction with ammoniacum or galbanum, for opening obstructions of the viscera, and in hysterical disorders arising from a deficiency of the menstrual purgations. It likewise promotes expectoration, and proves of considerable service in some kinds of asthmas and chronic catarrh, where the lungs are oppressed by viscid phlegm. It is most commodiously given in the form of pills; from two or three grains to half a dram may be given every night or oftener, and continued for some time. When sagapenum is scarce, the druggists usually supply its place with the larger and darker coloured masses of bdellium, broken into pieces; which are not easily distinguished from it.

Sagapenum was an ingredient in the compound powder of myrrh, electuary of bay-berries, mithridate and theriaca of the London pharmacopœia.

But from such of these formulæ as are still retained it is now rejected. It enters the gum pills of the London college; but it has no place either in that or any other formula of the Edinburgh pharmacopœia, a preference being given to ammoniacum and galbanum.

SAGO [*Gen.*]
Cycas circinalis Lin.
Sago.

This is the produce of an oriental tree of the palm tribe. The medullary part of the tree is beaten with water, and made into cakes, which are used by the Indians as bread. They likewise put the powder into a funnel, and wash it with water over a hair-sieve, which allows only the finer part to pass through the water. The water, on standing, deposites the fecule; which being passed through perforated copper-plates, is formed into grains called *Sago*. It furnishes agreeable jelly with water, milk, or broth, and is much used in phthisical and convalescent cases.

SAL ALKALINUS FIXUS VEGETABILIS, *Præsertim is qui* pearl-ashes *lingua vernacula dicitur.*

CINERES CANVELLATI VEL KALI IMPURUM [*Lond.*]

Vegetable fixed alkaline salt, particularly that named in English, pearl-ashes.

The Edinburgh college having rejected the oily alkalies of broom, wormwood, &c. order the pearl-ashes to be burnt in a crucible, dissolved in water, and the liquor to be decanted and evaporated to dryness in an iron pot. If the salt be thus properly purified, it dissolves in its weight of water; the solution is free from colour and smell, supplies the place of the oleum tartari per deli

deliquium, and in a dry ſtate that of the ſalt of tartar.

The mild vegetable alkali is uſed in form of lotion, in ſome cutaneous diſeaſes, and as a ſtimulant to the inactive ſtate of the veſſels in certain ulcers. It is uſed internally as a diaphoretic or diuretic, and of late in calculus complaints.

When the liquid alkali is deprived of its fixed air by quicklime, it forms the cauſtic or ſoap ley, which in a diluted ſtate is injected by ſome for removing the mucus and poiſon in recent gonorrhœa. The pure ſalt obtained by evaporation forms the common cauſtic, which, on account of its deliqueſcent, and conſequently ſpreading quality, is little uſed. The cauſtic ley diluted is the baſis of the common quack lithontriptics.

It ſometimes allays the ſymptoms of calculus without any evidence of its having acted on the ſtone, and in ſome caſes the ſtone has ſhown marks of its action; but its continued uſe ſeldom fails to injure the conſtitution, or the inteſtinal canal.

BARILLA, ſive NATRON, [*Lond.*]

This does not differ much in its general properties from the vegetable alkali. It is procurable from the aſhes of ſea plants, particularly from kali, and it is called *ſoda* or *barilla*. This purified has been recommended by ſome in ſcrophula.

SAL ALKALINUS FIXUS FOSSILIS, *Vulgo ſal ſodæ, ex herba kali uſta* [*Ed.*]

Foſſil fixed alkaline ſalt; commonly called ſalt of ſoda, from the burnt herb kali.

SAL AMARUS [*Lond. Ed.*] *Magneſia vitriolata.*

The bitter purging ſalt.

This ſalt is extracted from the bitter liquor remaining after the cryſtallization of common ſalt from ſea-water. It is the ſalt of the Epſom and ſome other purging mineral waters. We uſually meet with it in minute cryſtals, of a ſnowy appearance; diſſolved in water, and cryſtallized afreſh, it concretes, if properly managed, into larger ones, of a rectangular priſmatic figure, reſembling thoſe of the artificial cathartic ſalt of Glauber, to which they are ſometimes ſubſtituted in the ſhops.

All theſe ſalts have a penetrating bitteriſh taſte; they diſſolve in leſs than an equal weight of water: in a moderate heat, they melt, bubble up into bliſters, and ſoon change into a white ſpongy maſs, with the loſs of above half their weight: this calx taſtes more bitter than the ſalts did at firſt, and almoſt totally diſſolves again in water. The acid of theſe ſalts is the vitriolic: the baſis of the natural is magneſia; of the artificial, an alkaline ſalt, the ſame with the baſis of ſea-ſalt. Hence upon adding alkaline ſalts to a ſolution of the ſalts of Glauber, no change enſues: whilſt the ſalts obtained from the purging waters, or the bittern of marine waters, grow milky upon this addition, and depoſite their earth, the alkaline ſalt being taken up in its place.

The ſal amarus is a mild and gentle purgative, operating with ſufficient efficacy, and in general with eaſe and ſafety, rarely occaſioning any gripes, ſickneſs, or the other inconveniences which purgatives of the reſinous kind are too often accompanied with. Six or eight drams may be diſſolved for a doſe in a proper quantity of common water; or four, five, or more, in a pint, or quart of the purging waters. Theſe liquors may likewiſe be ſo managed as to promote evacuation, by the other emunctories: if the patient be kept warm, they increaſe perſpiration; and by moderate

moderate exercise in a cool air, the urinary discharge. Some allege this salt has a peculiar effect in allaying pain, as in colic, even independently of evacuation.

SAL AMMONIACUS [*Lond. Ed.*]

Ammonia muriata.

Sal ammoniac.

This is an artificial saline concrete, said to be prepared by sublimation from the soot of cow-dung. It is brought from Egypt in considerable quantities, but we are now principally supplied in Britain from our own manufactures, several of which are established in different parts of the country. In these, though the cheapest and most commodious process for preparing it is not generally known, yet it is with good reason conjectured to be principally formed from sea-salt and soot, the former furnishing the marine acid, the latter the volatile alkali. It is in general in large round cakes, convex on one side, and concave on the other; and sometimes in conical loaves: on breaking, they appear composed of needles, or striæ, running transversely. The best are almost transparent, colourless, and free from any visible impurities: those most commonly met with are of a grey yellowish colour on the outside, and sometimes black, according as the matter is more or less impure. The taste of this salt is very sharp and penetrating. It dissolves in twice its weight, or a little less, of water; and upon evaporating a part of the menstruum, concretes again into long shining spicula, or thin fibrous plates, like feathers.

Sal ammoniac appears from experiments to be composed of marine acid, united with a volatile alkali. If mingled with fixt alkalies, or absorbent earths, and exposed to a moderate fire, a large quantity of volatile salt sublimes, the acid remaining united with the intermedium; if treated in the same manner with quicklime, an exceeding penetrating volatile spirit arises, but no solid salt is obtained. Exposed alone to a considerable heat, it sublimes entire, without any alteration of its former properties: ground with certain metallic substances, it elevates some part of them along with itself, and concretes with the remainder into a mass, which readily flows into a liquor in a moist air; this appears in most respects similar to a saturated solution of the metal made directly in spirit of salt.

Pure sal ammoniac is a perfectly neutral salt, capable of attenuating viscid humours, and promoting a diaphoresis, or the urinary discharge, according to certain circumstances in the constitution, or as the patient is managed during the operation. If a dram of the salt be taken, dissolved in water, and the patient kept warm, it generally proves sudorific; by moderate exercise, or walking in the open air, its action is determined to the kidneys; a large dose gently loosens the belly, and a still larger proves emetic. This salt is recommended by many as an excellent febrifuge, and by some has been held a great secret in the cure of intermittents. It is undoubtedly a powerful aperient, and seems to pass into the minutest vessels; and as such may in some cases be of service, either alone, or joined with bitters or the bark. This salt is sometimes employed externally as an antiseptic, and in lotions and fomentations, for œdematous and scirrhous tumours: and also in gargarisms for inflammations of the tonsils, and for attenuating and dissolving thick viscid mucus. Some use it in form of lotion, in certain ulcers, and for removing common warts.

SAL MURIATICUS [*Lond.*] *Natron muriatum.*

Sea-ſalt, or common alimentary ſalt.

This is a neutral ſalt, differing from moſt others in occaſioning thirſt when ſwallowed. It diſſolves in ſomewhat leſs than three times its weight of water; the ſolution ſlowly evaporated, and ſet to ſhoot, affords cubical cryſtals, which unite together into the form of hollow truncated pyramids. Expoſed to the fire, it crackles and flies about, or decrepitates as it is called; ſoon after, it melts, and appears fluid as water. A ſmall quantity of this ſalt, added to the nitrous acid, enables it to diſſolve gold, but renders it unfit for diſſolving ſilver: if a ſolution of ſilver be poured into liquors containing even a minute portion of common ſalt, the whole immediately grows turbid and white; this phenomenon is owing to the precipitation of the ſilver.

This ſalt is either found in a ſolid form in the bowels of the earth, or diſſolved in the waters of the ſea or ſaline ſprings.

1. *Sal gemmæ.* Rock ſalt. This is met with in ſeveral parts of the world, but in greateſt plenty in certain deep mines, of prodigious extent, near Cracow in Poland; ſome is likewiſe found in England, particularly in Cheſhire. It is for the moſt part very hard, ſometimes of an opake ſnowy whiteneſs, ſometimes of a red, green, blue, and other colours. When pure, it is perfectly tranſparent and colourleſs; the other ſorts are purified by ſolution in water and cryſtallization, in order to fit them for the common uſes of ſalt.

2. *Sal marinus. Sal marinus Hiſpanus.* The ſalt extracted from ſea-water and ſaline ſprings. Sea waters yield from one-fiftieth to one-thirtieth their weight of pure ſalt; ſeveral ſprings afford much larger quantities; the celebrated ones of our own country at Nantwich, Northwich, and Droitwitch, yield (according to Dr Brownrigg) from one-ſixth to ſomewhat more than one-third. There are two methods of obtaining the common ſalt from theſe natural ſolutions of it: The one, a haſty evaporation of the aqueous fluid till the ſalt begins to concrete, and fall in grains to the bottom of the evaporating pan, from whence it is raked out, and ſet in proper veſſels to drain from the brine or bittern: the other, a more ſlow and gradual evaporation, continued no longer than till a ſaline cruſt forms on the top of the liquor; which, upon removing the fire, ſoon begins to ſhoot, and run into cryſtals of a cubical figure. In the warmer climates, both theſe proceſſes are effected by the heat of the ſun. The ſalts obtained by them differ very conſiderably: that got by a haſty evaporation is very apt to relent in a moiſt air, and run per deliquium; an inconvenience which the cryſtallized ſalt is not ſubject to: this laſt is likewiſe found better for preſerving meat, and ſundry other purpoſes.

Common ſalt, in ſmall quantities, is ſuppoſed to be warming, drying, and to promote appetite and digeſtion: in large doſes, as half an ounce, it proves cathartic. It is ſometimes uſed to check the operation of emetics, and make them run off by ſtool; and as a ſtimulus in glyſters.

SAL CORNU CERVI; *i. e. Sal alkalinus volatilis, ſiccus, ex oſſibus vel cornibus animalium igne paratus, ab oleo purificatus.*

Salt of hartſhorn; *i. e.* dry volatile alkaline ſalt, obtained by means of fire from the bones or horns of animals, freed from its oil. [*Ed.*]

This article, to which the London college now give the name of *ammonia præparata*, will afterwards come to be mentioned under the head of *Salts*. Here, with respect to its medical properties, it is sufficient to observe, that it is a quick and powerful stimulant, and as such is employed externally to the nose in syncope; and with oil in cynanche, and some other inflammation, as a rubefacient. It is used internally in various low states of the system.

SALIX [*Ed.*] *Ramulorum cortex.*

Salix fragilis Lin.

The willow; the bark of the branches.

This bark possesses a considerable degree of bitterness and astringency. It has been recommended by some as a substitute for the Peruvian bark; and of the indigenous barks which have been proposed, it is perhaps one of the most effectual. But in point of efficacy it is in no degree to be compared with the Peruvian bark.

SALIVA [*Lond. Ed.*] *Folium.*

Saliva officinalis Lin.

Sage; the leaf.

Of the saliva different varities are in use, particularly those distinguished by the titles of *major* and *minor*. These plants are common in our gardens, and flower in May and June: the green and red common sages differ no otherwise than in the colour of the leaves; the seeds of one and the same plant produce both: the small sort is a distinct species; its leaves are narrower than the others, generally of a whitish colour, and never red; most of them have at the bottom a piece standing out on each side in the form of ears. Both sorts are moderately warm aromatics, accompanied with a light degree of astringency and bitterness; the small sort is the strongest, the large most agreeable.

The writers on the materia medica are full of the virtues of sage, and derive its name from its supposed salutary qualities

Salvia salvatrix, naturæ conciliatrix.

Cur moriatur homo, cui salvia crescit in horto.

Its real effects are, to moderately warm and strengthen the vessels; and hence, in cold phlegmatic habits, it excites appetite and proves serviceable in debilities of the nervous system. The best preparation for these purposes is an infusion of the dry leaves, drank as tea; or a tincture, or extract, made with rectified spirit, taken in proper doses; these contain the whole virtues of the sage; the distilled water and essential oil, only its warmth and aromatic quality, without any thing of its roughness or bitterness. Aqueous infusions of the leaves, with the addition of a little lemon-juice, prove an useful diluting drink in febrile disorders. They are of an elegant colour, and sufficiently acceptable to the palate.

SAMBUCUS [*Lond. Ed.*]. *cortex interior, flos, bacca.*

Sambucus nigra Lin.

Black berried elder; the inner bark, flower, and berry.

This is a large shrub, frequent in hedges; it flowers in May, and ripens its fruit in September. The inner green bark of its trunk is gently cathartic; an infusion of it in wine, or the expressed juice, in the dose of half an ounce or an ounce, is said to purge moderately, and in small doses to prove an efficacious deobstruent, capable of promoting all the fluid secretions. The young buds, or rudiments of the leaves, are strongly purgative, and act with so much violence as to

be deſervedly accounted unſafe. The flowers are very different in quality: theſe have an agreeable aromatic flavour, which they give over in diſtillation with water, and impart by infuſion to vinous and ſpirituous liquors. The berries have a ſweetiſh, not unpleaſant taſte; nevertheleſs, eaten in ſubſtance, they offend the ſtomach: the expreſſed juice, inſpiſſated to the conſiſtence of a rob, proves an uſeful aperient medicine; it opens obſtructions of the viſcera, promotes the natural evacuations, and if continued for a length of time, does conſiderable ſervice in ſundry chronical diſorders. It is obſervable, that this juice, which in its natural ſtate is of a purpliſh colour, tinges vinous ſpirits of a deep red.

This article was formerly kept in the ſhops, under ſeveral different formulæ. The ſuccus ſpiſſatus and unguentum ſambuci ſtill retain a place in the London pharmacopœia; but the ſambucus does not now enter any fixed formula in that of Edinburgh.

A rob was prepared from the berries; an oil of elder by boiling the flowers in oil olive; and an ointment, by boiling them in a mixture of oil and ſuet.

SANGUIS DRACONIS [*Lond. Ed.*] *Gummi reſina.*

Dragon's blood.

It is perhaps ſurpriſing, that while the London and Edinburgh colleges have of late made ſo many changes in the names of articles, they ſhould ſtill have retained one ſo abſurd as that which is affixed to this article, eſpecially as that name is not in the ſmalleſt degree derived from any of thoſe different vegetables from whence this article is alleged to be obtained. What is called dragon's-blood is a gummi-reſinous ſubſtance brought from the Eaſt Indies, either in oval drops, wrapped up in flag leaves; or in large maſſes, compoſed of ſmaller tears. It is ſaid to be obtained from the palmijuncus draco, the calamus rotang, the dracena draco, the pterocarpus draco, and ſeveral other vegetables.

The writers on the materia medica in general, give the preference to the former, tho' the others are not unfrequently of equal goodneſs: the fine dragon's blood of either ſort breaks ſmooth, free from any viſible impurities, of a dark red colour, which changes upon being powdered into an elegant bright crimſon: Several artificial compoſitions, coloured with the true dragon's blood, or Brazil wood, are ſometimes ſold in the room of this commodity: ſome of theſe diſſolve like gums, in water; others crackle in the fire, without proving inflammable; whilſt the genuine ſanguis draconis readily melts and catches flame, and is not acted on by watery liquors. It totally diſſolves in pure ſpirit, and tinges a large quantity of the menſtruum of a deep red colour: it is likewiſe ſoluble in expreſſed oils, and gives them a red hue, leſs beautiful than that communicated by anchuſa. This drug, in ſubſtance, has no ſenſible ſmell or taſte; when diſſolved, it diſcovers ſome degree of warmth and pungency. It is uſually, but without foundation, looked upon as a gentle aſtringent, and ſometimes directed as ſuch in extemporaneous preſcription, againſt ſeminal gleets, the fluor albus, and other fluxes. In theſe caſes, it is ſuppoſed to produce the general effects of reſinous bodies, lightly incraſſating the fluids, and ſomewhat ſtrengthening the ſolids. But in the preſent practice it is very little uſed, either externally or internally. It is ſtill however an ingredient in the emplaſtrum thuris of the London pharmacopœia.

It

It formerly entered the pulvis ſtypticus of the Edinburgh college; but from this it has with propriety been rejected, giving place to a much more active article, the gum-kino: and perhaps the ſanguis draconis might even with propriety be omitted from our pharmacopœias, at leaſt till its qualities be really aſcertained: For even ſuppoſing ſome of theſe red coloured reſins ſold under this name to poſſeſs medical properties, yet it can hardly be imagined that all reſins of this colour have the ſame properties.

SANICULA [*Brun.*] *Folia.*
Sanicula Europæa Lin.
Sanicle; the leaves.

This plant grows wild in woods and hedges, and flowers in May. The leaves have an herbaceous roughiſh taſte: they have long been celebrated for ſanative virtues, both internally and externally. Nevertheleſs their effects, with any intention, are not conſiderable enough to gain them a place in the preſent practice.

SANTALUM ALBUM [*Brun.*]
Santalum album Lin.
White ſaunders.

This is a wood brought from the Eaſt Indies in billets about the thickneſs of a man's leg, of a pale whitiſh colour. This is not, as has been ſuppoſed. a different ſpecies from the following, but that part of the yellow ſaunders wood which lies next the bark. Greateſt part of it, as met with in the ſhops, has no ſmell or taſte, nor any ſenſible quality that can recommend it to the notice of the phyſician.

SANTALUM CITRINUM [*Ed.*]
Santalum album Lin.
Yellow ſaunders.

This article, which is the interior part of the wood of the ſame tree which furniſhes the former, is of a pale yellowiſh colour, of a pleaſant ſmell, and a bitteriſh aromatic taſte, accompanied with an agreeable kind of pungency. This elegant wood might undoubtedly be applied to valuable medical purpoſes, though at preſent very rarely made uſe of. Diſtilled with water it yields a fragrant eſſential oil, which thickens in the cold into the conſiſtence of a balſam. Digeſted in pure ſpirit, it imparts a rich yellow tincture; which being committed to diſtillation, the ſpirit ariſes without bringing over any thing conſiderable of the flavour of the ſaunders. The reſiduum contains the virtues of ſix times its weight of the wood. Hoffman looks upon this extract as a medicine of ſimilar virtues to ambergris; and recommends it as an excellent reſtorative in great debilities.

SANTALUM RUBRUM [*Lond. Ed.*]
Pterocarpus ſantalinus Lin.
Red ſaunders.

This is a wood brought from the Eaſt Indies in large billets, of a compact texture, a dull red, almoſt blackiſh colour on the outſide, and a deep brighter red within. This wood has no manifeſt ſmell, and little or no taſte. It has been commended as a mild aſtringent, and a corroborant of the nervous ſyſtem; but theſe are qualities that belong only to the yellow ſort.

The principal uſe of red ſaunders is as a colouring drug; with which intention it is employed in ſome formula, particularly in the *tinctura lavendulæ compoſita.* It communicates a deep red to rectified ſpirit, but gives no tinge to aqueous

liquors: a ſmall quantity of the reſin, extracted by means of ſpirit, tinges a large one of freſh ſpirit, of an elegant blood red. There is ſcarce any oil, that of lavender excepted, to which it communicates its colour. Geoffroy and others take notice, that the Brazil woods are ſometimes ſubſtituted to red ſaunders; and the college of Bruſſels are in doubt whether all that is ſold among them for ſaunders be not really a wood of that kind. According to the account which they have given, their ſaunders is certainly the Brazil wood; the diſtinguiſhing character of which is, that it impartsits colourto commonwater.

SANTONICUM [*Lond. Ed.*]
Semen.

Artemiſia Santonicum Lin. Lond.
Artemiſia auſtriaca Jacquin. Ed.
Worm ſeed.

This ſeed is the produce of a plant of the wormwood or mugwort kind, growing in the Levant.

It is a ſmall, light, chaffy ſeed, compoſed as it were of a number of thin membranous coats, of a yellowiſh colour, an unpleaſant ſmell, and a very bitter taſte. Theſe ſeeds are celebrated for anthelmintic virtues, which they have in common with other bitters; and are ſometimes taken with this intention, either mixed with molaſſes, or candied with ſugar: their unpleaſant taſte renders the form of a powder or decoction inconvenient.

SAPO EX OLEO OLIVÆ ET NATRO CONFECTUS [*Lond.*]

SAPO ALBUS HISPANUS [*Ed.*]

White Spaniſh Soap.

SAPO MOLLIS.

Common ſoft ſoap.

SAPO NIGER.

Black ſoft ſoap.

Soap is compoſed of expreſſed vegetable oils or animal fats, united with alkaline lixivia. The firſt ſort, or white hard-ſoap, is made with the finer kinds of oil olive; the common ſoft ſort with coarſer oils, fat, tallow, or a mixture of all theſe; and the black (as is ſaid) with train-oil.

The purer hard ſoap is the only ſort intended for internal uſe. This, triturated with oily or reſinous matters, renders them ſoluble in water, and hence becomes an uſeful ingredient in pills compoſed of reſins, promoting their diſſolution in the ſtomach, and union with the animal fluids, though gum is certainly preferable. Boerhaave was a great admirer of ſoap; and in his private practice ſeldom preſcribed any reſinous pills without it, unleſs where an alkaleſcent or putrid ſtate of the juices forbad its uſe. From the ſame quality, ſoap likewiſe ſeems well fitted for diſſolving ſuch oily or unctuous matters as it may meet with in the body, attenuating viſcid juices, opening obſtructions of the viſcera, and deterging all the veſſels it paſſes through. It has likewiſe been ſuppoſed a powerful menſtruum for the human calculus; and a ſolution of it in lime-water, as one of the ſtrongeſt diſſolvents that can be taken with ſafety into the ſtomach. The virtue of this compoſition has been thought conſiderably greater than the aggregate of the diſſolving powers of the ſoap and lime water when unmixed.

The ſoft ſoaps are more penetrating and acrimonious than the hard. The principal medical uſe of theſe is for ſome external purpoſes, although by ſome, when diſſolved in ale, they have been directed to be taken

taken to a considerable extent in the cure of jaundice

Hard soap gives name to an officinal plaster, liniment, and balsam.

SAPONARIA [*Suec.*] *Folia, radix.*

Saponaria officinulis Lin.

Soapwort, or bruisewort; the herb and root.

This grows wild, though not very common, in low wet places, and by the sides of running waters; a double-flowered sort is frequent in our gardens. The leaves have a bitter, not agreeable taste; agitated with water they raise a saponaceous froth, which is said to have nearly the same effects with solutions of soap itself, in taking out spots from cloaths, and the like. The roots taste sweetish and somewhat pungent, and have a light smell like those of liquorice: digested in rectified spirit, they yield a strong tincture, which loses nothing of its taste or flavour in being inspissated to the consistence of an extract. This elegant root has not come much into practice among us, though it promises from its sensible qualities to be a medicine of considerable utility. It is much esteemed by the German physicians as an aperient, corroborant, and sudorific; and preferred by the college of Wirtemberg, by Stahl, Neumann, and others, to sarsaparilla.

SARCOCOLLA [*Lond.*] *Gummi-resina.*

This is a concrete juice, brought from Persia and Arabia in small, whitish, yellow grains, with a few of a reddish, and sometimes of a deep red colour, mixed with them; the whitest tears are preferred, as being the freshest. It is supposed to be the product of the penæ a sarcocolla of Linnæus. Its taste is bitter, accompanied with a dull kind of sweetness. It dissolves in watery liquors, and appears to be chiefly of the gummy kind, with a small admixture of resinous matter. It is principally celebrated for conglutinating wounds and ulcers (whence its name σαρκοκολλα, *flesh-glue*), a quality to which neither this nor any other drug has a just title. It is an ingredient in the *pulvis e ceruſſa.*

SARSAPARILLA [*Lond. Ed.*] *Radix.*

Smilax sarsaparilla Lin.

Sarsaparilla; the root.

This root is brought from the Spanish West Indies. It consists of a great number of long strings hanging from one head: the long roots, the only part made use of, are about the thickness of a goose-quill, or thicker, flexible, composed of fibres running their whole length; so that they may be stript into pieces from one end to the other. They have a glutinous, bitterish, not ungrateful taste, and no smell. It was first brought into Europe by the Spaniards, about the year 1563, with the character of a specific for the cure of the lues venerea, a disease which made its appearance a little before that time, and likewise of several obstinate chronic disorders. Whatever good effects it might have produced in the warmer climates, it proved unsuccessful in this; insomuch, that many have denied it to have any virtue at all. It appears, however, from experience, that though very unequal to the character which it bore at first, it is in some cases of considerable use as a sudorific, where more acrid medicines are improper. The best preparations are, a decoction and extract made with water; a decoction of half an ounce of the root, or a dram of the extract, which is equivalent thereto, may be taken for a dose.

SASSAFRAS [*Lond. Ed.*] *Lignum, radix ejusque, cortex.*
Laurus sassafras Lin.
Sassafras; the wood, root, and its bark.

Sassafras is brought to us in long straight pieces, very light, and of a spongy texture, covered with a rough fungous bark; outwardly of an ash colour, inwardly of the colour of rusty iron. It has a fragrant smell, and a sweetish aromatic subacrid taste: the bark tastes much stronger than any other part; and the small twigs stronger than the large pieces. As to the virtues of this root, it is a warm aperient and corroborant; and frequently employed with good success for purifying the blood and juices. For these purposes, infusions made from the rasped root or bark, may be drank as tea In some constitutions, these liquors, by their fragrance, are apt, on first taking them, to affect the head: in such cases they may be advantageously freed from their flavour by boiling. A decoction of sassafras boiled down to the consistence of an extract, proves simply bitterish and subastringent. Hoffman assures us, that he has frequently given this extract to the quantity of a scruple at a time, with remarkable success, for strengthening the tone of the viscera in cachexies, and also in the decline of intermittent fevers, and in hypochondriacal spasms. Sassafras yields, in distillation, an extremely fragrant oil, of a penetrating pungent taste, so ponderous, notwithstanding the lightness of the drug itself, as to sink in water. Rectified spirit extracts the whole taste and smell of sassafras, and elevates nothing in evaporation: hence the spirituous extract proves the most elegant and efficacious preparation, as containing the virtue of the root entire.

The only officinal preparation of sassafras is the essential oil. The sassafras itself is an ingredient in the decoction of the woods; and the oil in the elixir guaiacinum.

SATUREIA [*Suec.*] *Herba.*
Satureia hortensis Lin.
Summer savory; the herb.

This herb is raised annually in gardens for culinary purposes. It is a very pungent warm aromatic; and affords in distillation with water a subtile essential oil, of a penetrating smell, and very hot acrid taste. It yields little of its virtues by infusion to aqueous liquors: rectified spirit extracts the whole of its taste and smell, but elevates nothing in distillation.

SATYRION [*Ed.*] *Radix.*
Orchis mascula Lin.
Orchis; the root.

This plant is frequent in shady places and moist meadows: each plant has two oval roots, of a whitish colour, a viscid sweetish taste, and a faint unpleasant smell. They abound with a glutinous slimy juice. With regard to their virtues, like other mucilaginous vegetables, they thicken the serous humours, and defend the solids from their acrimony: they have also been celebrated, tho' on no very good foundation, for analeptic and aphrodisiac virtues; and frequently made use of with these intentions. Salep, a celebrated restorative among the Turks, is probably the prepared root of certain plants of the orchis kind. This drug, as sometimes brought to us, is in oval pieces, of a yellowish white colour, somewhat clear and pellucid, very hard, and almost horny, of little or no smell, and tasting like gum tragacanth. Satyrion root, boiled in water, freed from the skin, and afterwards suspended in the air to dry, gains exactly the same appearance: the roots thus prepared, dissolve in boiling water into a mucilage.

Geoffroy,

Geoffroy, who first communicated this preparation of orchis, recommends it in consumptions, in bilious dysenteries, and disorders of the breast, proceeding from an acrimony of the juices.

SCABIOSA [*Brun.*] *Herba.*
Scabiosa arvensis Lin.
Scabious; the herb.

This is a rough hairy plant, growing wild in pasture-grounds; of a nauseous bitterish taste. It stands recommended as an aperient, sudorific, and expectorant; but the present practice has little dependence on it.

SCAMMONIUM [*Lond. Ed.*] *Gummi-resina.*
Convolvulus scammonia Lin.
Scammony; the gum-resin.

Scammony is a concrete juice, extracted from the roots of a large climbing plant growing in the Asiatic Turky. The best comes from Aleppo, in light spongy masses, easily friable, of a shining ash colour verging to black; when powdered, of a light grey or whitish colour. An inferior sort is brought from Smyrna in more compact ponderous pieces, of a darker colour, and full of sand and other impurities. This juice is chiefly of the resinous kind: rectified spirit dissolves five ounces out of six; the remainder is a mucilaginous substance mixed with dross: proof spirit totally dissolves it, the impurities only being left. It has a faint unpleasant smell, and a bitterish, somewhat acrimonious taste.

Scammony is an efficacious and strong purgative. Some have condemned it as unsafe, and laid sundry ill qualities to its charge; the principal of which is, that its operation is uncertain, a full dose proving sometimes ineffectual, whilst at others a much smaller one occasions dangerous hypercatharsis. This difference, however, is owing entirely to the different circumstances of the patient, and not to any ill quality, or irregularity of operation, of the medicine: where the intestines are lined with an excessive load of mucus, the scammony passes through, without exerting itself upon them; where the natural mucus is deficient, a small dose of this or any other resinous cathartic, irritates and inflames. Many have endeavoured to abate the force of this drug, and correct its imaginary virulence, by exposing it to the fume of sulphur, dissolving it in acid juices, and the like: but this could do no more than destroy as it were a part of the medicine, without making any alteration in the rest. Scammony in substance, judiciously managed, stands not in need of any corrector: if triturated with sugar or with almonds, as we have formerly recommended for other resinous purgatives, it becomes sufficiently safe and mild in its operation. It may likewise be conveniently dissolved, by trituration, in a strong decoction of liquorice, and then poured off from the feces. the college of Wirtemberg assure us, that by this treatment it becomes mildly purgative, without being attended with gripes, or other inconveniences; and that it likewise proves inoffensive to the palate. The common dose of scammony is from three to twelve grains.

Scammony gives name to three different compound powders, viz. the pulvis e scammonio compositus, pulvis e scammonio cum aloe, and pulvis e scammonio cum calomelane, and is an ingredient in the compound powder of senna, the compound extract of colocynth, and the pills of colocynth and aloes.

SCILLA [*Lond Ed.*] *Radix.*
Scilla maritima Lin.

Squill, or ſea-onion; the root.

This is a ſort of onion, growing ſpontaneouſly upon dry ſandy ſhores in Spain and the Levant, from whence the root is annually brought into Europe. It ſhould be choſen plump, ſound, freſh, and full of a clammy juice: ſome have preferred the red ſort, others the white, though neither deſerves the preference to the other; the only difference perceivable between them, is that of the colour; and hence both may be uſed promiſcuouſly. This root is to the taſte very nauſeous, intenſely bitter, and acrimonious: much handled, it ulcerates the ſkin. With regard to its medical virtues, it powerfully ſtimulates the ſolids, and attenuates viſcid juices; and by theſe qualities promotes expectoration, urine, and if the patient be kept warm, ſweat: if the doſe be conſiderable, it proves emetic, and ſometimes purgative. The principal uſe of this medicine is where the primæ viæ abound with mucous matter, and the lungs are oppreſſed by tenacious phlegm. Dr Wagner, in his clinical obſervations, recommends it given along with nitre, in hydropical ſwellings, and in the nephritis; and mentions ſeveral cures which he performed, by giving from four to ten grains of the powder for a doſe, mixed with a double quantity of nitre: he ſays, that thus managed, it almoſt always operates as a diuretic, though ſometimes it vomits or purges. In dropſy, dried ſquills is often combined with mercury. The moſt commodious form for the taking of ſquills, unleſs when deſigned as an emetic, is that of a bolus, or pill: liquid forms are to moſt people too offenſive, though theſe may be rendered leſs diſagreeable both to the palate and ſtomach by the addition of aromatic diſtilled waters. This root yields the whole of its virtues, both to aqueous and vinous menſtrua, and likewiſe to vegetable acids. Its officinal preparations are, a conſerve, dried ſquills, a ſyrup, and vinegar, an oxymel, and pills.

SCOLOPENDRIUM. Vide LINGUA CERVINA.

SCORDIUM [*Lond. Ed.*] *Herba.*
Teucrium ſcordium Lin.

Water-germander; the herb.

This is a ſmall, ſomewhat hairy plant, growing wild in ſome parts of England, though not very common; the ſhops are generally ſupplied from gardens. It has a bitter taſte, and a ſtrong diſagreeable ſmell. Scordium is of no great eſteem in the preſent practice, notwithſtanding the deobſtruent, diuretic, and ſudorific virtues for which it was formerly celebrated. It formerly entered the mithridate, theriaca, and cataplaſm of cummin ſeed, and gave name to two compound powders and an electuary; but it could by no means be conſidered as an article of any great activity; and from ſuch of theſe formulæ as are ſtill retained, the ſcordium is rejected.

SCORZONERA [*Suec.*] *Radix.*
Scorzonera Hiſpanica Lin.

Viper's graſs; the root.

Scorzonera is met with only in gardens. The roots abound with a milky juice, of a bitteriſh ſubacrid taſte; and hence may be of ſome ſervice for ſtrengthening the tone of the viſcera, and promoting the fluid ſecretions. They were formerly celebrated as alexipharmacs, and for throwing out the meaſles and ſmallpox; but have now almoſt entirely loſt their character.

SCRO-

SCROPHULARIA [*Brun.*] *Folium, radix.*

Scrophularia nodosa Lin.

Fig-wort; the leaf and root.

This herb grows wild in woods and hedges: the roots are of a white colour, full of little knobs or protuberances on the surface: this appearance gained it formerly some repute against scrophulous disorders and the piles: and from hence it received its name: but modern practitioners expect no such virtues from it. It has a faint unpleasant smell, and a somewhat bitter disagreeable taste.

SEBESTENA [*Brun.*] *Fructus.*

Cordia myxa Lin.

Sebestens.

These are a sort of plum, the produce of a tree growing in the East Indies. The fruit is brought from thence in a dry state; it is of a dark or blackish brown colour, with whitish or ash-coloured cups: the flesh sticks close to the stone, which contains sometimes one and sometimes two kernels. This fruit has a sweet, very glutinous taste: and hence has been employed for softening acrimonious humours, in some kinds of hoarseness, and in coughs from thin sharp defluxions: at present it is not often met with in the shops.

SEDUM ACRE [*Suec.*] *Herba recens.*

Sedum acre Lin.

Wall-stone crop, or pepper; the recent plant.

This species of the sedum is a small, perennial, succulent, evergreen plant, growing in great abundance on the tops of walls and roofs of houses. It has a faint smell, and at first an herbaceous taste; but it afterwards shows considerable acrimony, exciting a sense of biting heat in the mouth and fauces. In its recent state it shows very active powers, proving emetic, purgative, and diuretic. The expressed juice taken to the quantity of a table spoonful, has been said to prove a very drastic medicine: but the plant in its dried state shows little or no activity. In this country it is hardly employed, and has no place in our pharmacopœias. Its activity, however, points it out as a subject deserving attention.

SENEKA [*Lond. Ed.*] *Radix.*

Polygala Senega Lin.

Seneka, or rattle-snake root.

Seneka grows spontaneously in Virginia, and bears the winters of our own climate. This root is usually about the thickness of the little finger, variously bent and contorted, and appears as if composed of joints, whence it is supposed to resemble the tail of the animal whose name it bears: a kind of membranous margin runs on each side, the whole length of the root. Its taste is at first acid, afterwards very hot and pungent.

The Senegaro Indians are said to prevent the fatal effects which follow from the bite of the rattle-snake, by giving it internally, and by applying it externally to the wound. It has been strongly recommended in pleurisies, peripneumonies, and other inflammatory distempers. Its more immediate effects are those of a diuretic, diaphoretic, and cathartic; sometimes it proves emetic: the two last operations may be occasionally prevented, by giving the root in small doses, along with aromatic simple waters, as that of cinnamon. The usual dose of the powder is thirty grains or more.

Some have likewise employed this root in hydropic cases, and not without success. There are examples of its occasioning a plentiful evacuation

ation by ſtool, urine, and perſpiration; and by this means removing the diſeaſe, after the common diuretics and hydragogues had failed: where this medicine operates as a cathartic, it generally proves ſucceſsful: if it acts by liquefying the blood and juices, without occaſioning a due diſcharge, it ſhould either be abſtained from, or aſſiſted by proper additions.

SENNA [*Lond. Ed.*] *Folium.*
Caſſia ſenna Lin.
Senna; the leaf.

This is a ſhrubby plant cultivated in Perſia, Syria, and Arabia; from whence the leaves are brought, dried and picked from the ſtalks, to Alexandria in Egypt; and thence imported into Europe. They are of an oblong figure, ſharp pointed at the ends, about a quarter of an inch broad, and not a full inch in length, of a lively yellowiſh green colour, a faint not very diſagreeable ſmell, and a ſubacrid, bitteriſh, nauſeous taſte. Some inferior ſorts are brought from Tripoli and other places; theſe may eaſily be diſtinguiſhed by their being either narrower, longer, and ſharper pointed; or larger, broader, and round pointed, with ſmall prominent veins; or large and obtuſe, of a freſh green colour, without any yellow caſt.

Senna is a very uſeful cathartic, operating mildly, and yet effectually: and, if judiciouſly doſed and managed, rarely occaſioning the ill conſequences which too frequently follow the exhibition of the ſtronger purges. The only inconveniences complained of in this drug are, its being apt to gripe, and its nauſeous flavour. The griping quality depends upon a reſinous ſubſtance, which, like the other bodies of this claſs, is naturally diſpoſed to adhere to the coats of the inteſtines. The more this reſin is divided by ſuch matters as take off its tenacity, the leſs adheſive, and conſequently the leſs irritating and griping it will prove; and the leſs it is divided, the more griping: hence ſenna given by itſelf, or infuſions made in a very ſmall quantity of fluid, gripe ſeverely, and purge leſs than when diluted by a large portion of ſuitable menſtruum, or divided by mixing the infuſion with oily emulſions. The ill flavour of this drug is ſaid to be abated by the greater water-ſigwort: but we cannot conceive that this plant, whoſe ſmell is manifeſtly fetid and its taſte nauſeous and bitter, can at all improve thoſe of ſenna: others recommend bohea tea, though neither has this any conſiderable effect. The ſmell of ſenna reſides in its more volatile parts, and may be diſcharged by lightly boiling infuſions of it made in water: the liquor thus freed from the peculiar flavour of the ſenna, may be eaſily rendered grateful to the taſte, by the addition of any proper aromatic tincture or diſtilled water. The colleges, both of London and Edinburgh, have given ſeveral formulæ for the exhibition of this article, ſuch as thoſe of infuſion, powder, tincture, and electuary. The doſe of ſenna in ſubſtance, is from a ſcruple to a dram; in infuſion, from one to three or four drams.

It has been cuſtomary to reject the pedicles of the leaves of ſenna as of little or no uſe: Geoffroy however obſerves, that they are not much inferior in efficacy to the leaves themſelves. The pods or ſeed-veſſels met with among the ſenna brought to us, are by the college of Bruſſels preferred to the leaves: they are leſs apt to gripe, but proportionably leſs purgative.

SERPENTARIA VIRGINIANA [*Lond. Ed.*] *Radix.*
Ariſtolochia ſerpentaria Lin.

Vir-

Virginian ſnake-root; the root.

This is a ſmall, light, buſhy root, conſiſting of a number of ſtrings or fibres, matted together, iſſuing from one common head; of a browniſh colour on the outſide, and paler or yellowiſh within. It has an aromatic ſmell, like that of valerian, but more agreeable: and a warm, bitteriſh, pungent taſte. This root is a warm diaphoretic and diuretic: it has been much celebrated as an alexipharmac, and eſteemed one of the principal remedies in malignant fevers and epidemic diſeaſes. Some recommend it in cutaneous affections. It is given in ſubſtance from ten to thirty grains, and in infuſion to a dram or two. Both watery and ſpirituous menſtrua extract its virtue by infuſion, and elevate ſome ſhare of its flavour in diſtillation: along with the water a ſmall portion of eſſential oil ariſes. A ſpirituous tincture is directed as an officinal preparation.

SERPYLLUM [*Ed.*] *Summitatis florentes.*

Thymus ſerpyllum Lin.

Mother of thyme; the flowering tops.

This is a ſmall creeping plant, common on heaths and dry paſture grounds. Its taſte, ſmell, and medical virtues are ſimilar to thoſe of thyme, but weaker.

SIMAROUBA [*Lond. Ed.*] *Cortex.*

Quaſſia ſumarouba Lin.

Simarouba; the bark.

This bark, with pieces of the wood adhering to it, is brought from Guiana in South America, in long tough pieces of a pale yellowiſh colour, and a pretty ſtrong bitter taſte. Some eſteem it in dyſenteric fluxes: a decoction of half a dram is given for a doſe, and repeated at intervals of three or four hours.

It has alſo been uſed with advantage in ſome other inſtances of increaſed diſcharges, particularly in leucorrhœa. From its ſenſible qualities it may be concluded to be a gentle aſtringent.

SINAPI [*Lond. Ed*] *Semen.*

Sinapis nigra Lin. [*Lond.*]

Sinapis alba Lin. [*Ed.*]

Muſtard ſeed, black and white.

Theſe ſeeds obtained from different ſpecies of the muſtard, differ very little from each other, excepting that the black is rather more pungent than the white.

This plant is ſometimes found wild, but for culinary and medicinal uſes is cultivated in gardens. Muſtard, by its acrimony and pungency, ſtimulates the ſolids, and attenuates viſcid juices; and hence ſtands deſervedly recommended for exciting appetite, promoting digeſtion, increaſing the fluid ſecretions, alſo in paralytic and rheumatic affections, and for the other purpoſes of the acrid plants called *antiſcorbutic.* Some recommend it in the diſeaſe called *milreek*, to which ſmelters are ſubject. It imparts its taſte and ſmell in perfection to aqueous liquors, whilſt rectified ſpirit extracts extremely little of either: the whole of the pungency ariſes with water in diſtillation. Committed to the preſs, it yields a conſiderable quantity of a ſoft inſipid oil, perfectly void of acrimony: the cake left after the expreſſion is more pungent than the muſtard was at firſt. The oil is directed as an officinal by the London college. Theſe ſeeds are ſometimes employed externally as a ſtimulant and ſinapiſm.

SIUM [*Lond.*] *Herba.*

Sium nodiflorum Lin.

Creeping ſkerrit, or water parſnip; the herb.

The London pharmacopœia is the

the only modern one in which this article has at present a place. And it has probably been introduced from some observations of late date with which we are unacquainted. It is an indigenous vegetable in Britain, growing abundantly in rivers and ditches. It was formerly alleged to be not only a diuretic, but also an emmenagogue and lithontriptic. With these intentions, however, it is not now employed. Dr Withering mentions, that a young lady of six years old was cured of an obstinate cutaneous disease by taking three large spoonfuls of the juice twice a-day; and he adds, that he has given repeatedly to adults three or four ounces every morning, in similar complaints. In such doses it neither affects the head, stomach, nor bowels. And children take it readily when mixed with milk.

SOLANUM LETHALE, vide BELLADONNA.

SPERMA CÆTI DICTUM [*Lond. Ed.*]

Physiter macrocephalus Lin.

Spermaceti.

It is perhaps surprising, that while the London and Edinburgh colleges, have with great propriety changed many of the old names of articles, particularly those which had a tendency to mislead, they should still have retained one so absurd as that which is affixed to the present article. What is denominated spermaceti is a peculiar animal fat obtained from the head of a particular species of whale. In the state to which it is brought, before it enters the shops of our apothecaries, it is an unctuous flaky substance, of a snowy whiteness, a soft butyraceous taste, and without any remarkable smell. The virtues of this concrete are those of a mild emollient: it is of considerable use in pains and erosions of the intestines, in coughs proceeding from thin sharp defluxions, and in general in all cases where the solids require to be relaxed, or acrimonious humours to be softened. For external purposes, it readily dissolves in oils; and for internal ones, may be united with aqueous liquors into the form of an emulsion, by the mediation of almonds, gums, or the yolk of an egg. Sugar does not render it perfectly miscible with water; and alkalies, which change other oils and fats into soap, have little effect upon spermaceti. This drug ought to be kept very closely from the air; otherwise its white colour soon changes into a yellow, and its mild unctuous taste, into a rancid and offensive one. After it has suffered this disagreeable alteration, both the colour and quality may be recovered again by steeping it in alkaline liquors, or in a sufficient quantity of spirit of wine.

SPIGELIA [*Lond. Ed.*] *Radix.*

Spigelia Marilandica Lin.

Indian pink; the root.

This plant grows wild in the southern parts of North America. The roots are celebrated as an anthelmintic, particularly for the expulsion of lumbrici from the alimentary canal. Some order it in doses of ten or fifteen grains; and allege it is apt to occasion nervous affections if given in large doses; while others order it in dram doses, alledging that the bad effects mentioned more readily happen from small doses, as the large ones often purge or puke; some prefer the form of infusion. An emetic is generally premised; and its purgative effect assisted by some suitable additions.

SPINÆ CERVINA [*Lond. Ed.*] *Bacca.*

Rhamnus catharticus Lin.

Buck-thorn; the berries.

This

This tree, or bush, is common in hedges: it flowers in June, and ripens its fruit in September or the beginning of October. In our markets, the fruit of some other trees, as the black berry-bearing alder, and the dog-berry tree, have of late been frequently mixed with or substituted for those of buckthorn. This abuse may be discovered by opening the berries: those of buckthorn have almost always four seeds, the berries of the alder two, and those of the dog-berry only one. Buckthorn berries, bruised on white paper, give it a green tincture, which the others do not. Those who sell the juice to the apothecaries, are said to mix with it a large proportion of water.

Buckthorn berries have a faint disagreeable smell, and a nauseous bitter taste. They have long been in considerable esteem as cathartics; and celebrated in dropsies, rheumatisms, and even in the gout; though in these cases, they have no advantage above other purgatives, and are more offensive, and operate more severely, than many which the shops are furnished with: they generally occasion gripes, sickness, dry the mouth and throat, and leave a thirst of long duration. The dose is about twenty of the fresh berries in substance, and twice or thrice this number in decoction, an ounce of the expressed juice, or a dram of the dried berries. A syrup prepared from the juice is kept in the shops; in this preparation the nauseous flavour of the buckthorn is somewhat alleviated by the sugar, and the addition of aromatics.

SPIRITUS CORNU CERVI; *Hoc est, Salis alkalini volatilis ex ossibus vel cornibus animalium parati, portio volatilior liquida bene rectificata ut decolor sit:* [*Ed.*]

Spirit of hartshorn.

This is the more volatile liquid part of the volatile alkaline salt, obtained from the bones and horns of animals, well rectified so as to become colourless.

The volatile alkali, as got by distillation with a strong fire from any animal matter, from soot, &c. is, when pure, one and the same thing.

Of the mode of obtaining it we shall afterwards have occasion to speak, under the head of preparations, when we come to mention the liquor volatilis, sal et oleum cornu cervi, which, although they derive their name from hartshorn, may yet be obtained from any animal substance, excepting animal fat.

As first distilled, however, from the subject, this liquor is impregnated with its oil, rendered fetid or empyreumatic by the process. The oily volatile alkali has been chiefly prepared by distillation in large iron pots, with a fire increased by degrees to a strong red heat: a watery liquor rises first, then the volatile salt, along with a yellowish, and at length a dark reddish oil; a part of the salt dissolves in the water and forms the spirit, which is considerably separated from the oil by filtration through wetted paper. It is rectified by repeated distillations with a very gentle heat. Greatest part of the salt always comes over before the water; a little of the salt is generally allowed to remain undissolved as a test of the strength of the spirit. However colourless the salt or spirit of hartshorn, soot, or such like, may be thus rendered; yet by keeping they become yellow and nauseous, owing to a quantity of oil which they still retain. The Edinburgh college order this article to be got from the manufacturer, rather than prepared by the apothecary himself, who cannot do it to any advantage.

The volatile alkali is got in its purest state from sal ammoniac. It is used

uſed externally, held to the noſe, on account of its pungent odour, in caſes of faintneſs and ſyncope, and mixed with unctuous matter as a rubefacient. It is uſed internally to obviate ſpaſm in hyſteria, torpor in hypochondriaſis, and with a view to excite the vis vitæ.

It has alſo been ſaid, that in ſome inſtances intermittents have been ſucceſsfully cured by it, even after the Peruvian bark had failed. With this view, fifteen drops of the ſpirit are given in a tea cupful of cold ſpring water, and repeated five or ſix times in each intermiſſion.

SPIRITUS VINOSUS RECTIFICATUS [*Lond. Ed.*] *Continet alkoholis partes* 95 *et aquæ diſtillatæ partes* 5 *in partibus* 100; *hujus pondus ſpecificum eſt at pondus aqueæ diſtillatæ ut* 930 *ad* 1000.

Rectified ſpirit of wine. It contains 95 parts of alcohol and 5 parts of diſtilled water in 100. Its ſpecific gravity is to that of diſtilled water as 835 to 1000.

According to the Edinburgh college, the pound meaſure of rectified ſpirit ought to weigh thirteen ounces; and it ſhould be a colourleſs fluid free from any diſagreeable ſmell.

This purification is effected by repeating the diſtillation in a very gentle heat, with certain additions to keep down the phlegm and the groſs oil, in which the ill flavour reſides. Theſe ſpirits, whatever vegetable ſubjects they have been produced from, are, when perfectly pure, one and the ſame. They have a hot pungent taſte, without any particular flavour; they readily catch flame, and burn entirely away, without leaving any marks of an aqueous moiſture behind: diſtilled by a heat leſs than that of boiling water, they totally ariſe, the laſt runnings proving as flavourleſs and inflammable as the firſt: they diſſolve eſſential vegetable oils and reſins into an uniform tranſparent fluid. Theſe ſpirits are the lighteſt of almoſt all known liquors: expreſſed oils, which ſwim upon water, ſink in theſe to the bottom: a meaſure which contains ten ounces by weight of water, will hold little more than eight and a quarter of pure ſpirit.

The uſes of vinous ſpirits, as menſtrua for the virtues of other medicines, will be mentioned hereafter, and in this place we ſhall conſider only their own. Pure ſpirit coagulates all the fluids of animal bodies, except urine, and it alſo hardens the ſolid parts. Applied externally, it ſtrengthens the veſſels, and thus may reſtrain paſſive hemorrhagies. It inſtantly contracts the extremities of the nerves it touches, and deprives them of ſenſe and motion; by this means eaſing them of pain, but at the ſame time deſtroying their uſe. Hence employing ſpirituous liquors in fomentations, notwithſtanding the ſpecious titles of vivifying, heating, reſtoring mobility, reſolving, diſſipating, and the like, uſually attributed to them, may ſometimes be attended with unhappy conſequences. Theſe liquors received undiluted into the ſtomach, produce the ſame effects, contracting all the ſolid parts which they touch, and deſtroying, at leaſt for a time, their uſe and office: if the quantity be conſiderable, a palſy or apoplexy follows, which end in death. Taken in ſmall quantity, and duly diluted, they brace up the fibres, raiſe the ſpirits, and promote agility: if farther continued, the ſenſes are diſordered, voluntary motion deſtroyed, and at length the ſame inconveniences brought on as before. Vinous ſpirits, therefore, in ſmall doſes, and properly diluted, may be applied to uſeful purpoſes in the cure of diſeaſes; whilſt in larger ones they act as a poiſon of a particular kind.

And they generally prove deliterious from long continued uſe to ſuch a degree as frequently to intoxicate.

SPIRITUS VINOSUS TENUIOR [*Lond. Ed.*] *Continet alkoholis partes* 55, *et aquæ diſtillatæ partes* 45 *in partibus* 100. *Hujus pondus ſpecificum eſt ad pondus aquæ diſtillatæ ut* 930 *ad* 1,000.

Proof ſpirit of wine. It contains 55 parts of alcohol and 45 of diſtilled water in 100. Its ſpecific gravity is to that of diſtilled water as 930 to 1000.

The Edinburgh college direct proof ſpirit to be made by mixing equal parts of water and rectified ſpirit; but the ſpirits uſually met with under the name of *proof*, are thoſe diſtilled from different fermented liquors, freed from their phlegm and ill-flavour only to a certain degree. Their purity, with regard to flavour, may be eaſily determined from the taſte, eſpecially if the ſpirit be firſt duly diluted. It were to be wiſhed that we had a certain ſtandard with regard to their ſtrength or the quantity of water contained in them; a circumſtance which greatly influences ſundry medicinal preparations, particularly the tinctures: for as pure ſpirit diſſolves the reſin and volatile oil, and water only the gummy and ſaline parts of vegetables, it is evident that a variation in the proportions wherein theſe are mixed, will vary the diſſolving power of the menſtruum, and conſequently the virtue of the preparation; and from this circumſtance, apothecaries would do better by preparing it from rectified ſpirit themſelves, than by purchaſing it from dealers.

SPONGIA [*Lond.*]
Spongia officinalis Lin.
Sponge.

Sponge is a ſoft, light, very porous and compreſſible ſubſtance, readily imbibing water, and diſtending thereby. It is found adhering to rocks, particularly in the Mediterranean ſea, about the iſlands of the Archipelago. It is generally ſuppoſed to be a vegetable production: nevertheleſs ſome obſervations, made by Juſſieu, give room to ſuſpect that it is of animal origin. Chemical experiments favour this ſuppoſition: analyſed, it yields the ſame principles with animal-ſubſtances in general: volatile ſalt is obtained from it in larger quantity than from almoſt any animal-matter, except the bags of the ſilk-worm. On this ſalt ſeem to depend the virtues of the officinal *ſpongia uſta*, which has by ſome been ſtrongly recommended in ſcrophulous affections; but which has been particularly celebrated for removing that large ſwelling of the neck, which is termed *bronchocele*, and which is probably of a ſcrophulous nature.

Crude ſponge, from its property of imbibing and diſtending by moiſture, is ſometimes made uſe of as a tent for dilating wounds and ulcers.

To fit it for theſe intentions, the ſponge is immerſed in melted wax, and ſubjected to preſſure till cool: In this ſtate it may be eaſily formed into proper tents, ſo as to be introduced where neceſſary. And from the gradual melting of the wax in conſequence of the heat of the part, a dilatation of courſe takes place.

It adheres ſtrongly to the mouths of wounded veſſels; and when retained by proper compreſſion, it has prevented conſiderable bleedings preferably to agaric, or puff-ball.

STANNUM [*Lond.*]
STANNI LIMATURA ET PULVIS [*Ed.*]
The filings and powder of tin.

Tin is the lighteſt and eaſieſt of fuſion of all metals. Heated, it becomes ſo brittle as to fall in pieces by a blow; and by agitation (when juſt ready to melt) it is formed into a powder:

der: hence the officinal method of pulverifing this metal, to be defcribed in its place. The proper menftruum of tin is the marine acid, or aqua regia. Vegetable acids likewife diffolve it in confiderable quantity, tho' it has long been fuppofed not to be at all fo foluble in them, unlefs previoufly well calcined.

With regard to the virtues of this metal it was formerly accounted a fpecific in diforders of the uterus and lungs: a calx of tin and antimony is ftill retained in fome difpenfatories, under the name of an *antihectic*: but thefe are virtues to which it certainly has little claim. It has of late been celebrated as an anthelmintic; and faid to deftroy fome kinds of worms which elude the force of many other medicines, particularly the tænia: poffibly the caufe of this effect may be very different from what is fufpected, an admixture of a portion of arfenic.

Tin has a ftrong affinity with arfenic; infomuch, that when once united therewith, the arfenic, notwithftanding its volatility in other circumftances, cannot be totally expelled, either by flow calcination or by a vehement fire. Almoft all the ores of tin contain more or lefs of this poifonous mineral, which is not entirely feparable in the common proceffes by which the ores are run down, or the metal farther purified. Filings of tin held in the flame of a candle, emit a thick fume, fmelling of garlic; which fmell is univerfally held in mineral fubftances to be a certain criterion of arfenic. Mr Henckel has difcovered a method of feparating actual arfenic from tin: this is effected by folution in aqua-regia and cryftallifation. Mr Margraff has given a farther account of this procefs; and relates, that from the tins ufually reputed pure, he has obtained one-eighth of their weight of cryftals of arfenic.

But notwithftanding thefe obfervations, it is certain, that tin under the form of ftannum pulveratum, afterwards to be mentioned, is every day taken internally with perfect impunity, even in dofes fo large as to the extent of an ounce, although unlefs in cafes of tænia, it is in general employed in much fmaller dofes.

STAPHISAGRIA [*Lond.*] *Semen.*

Delphinium ftaphifagria Lin.

Staverfacre; the feeds.

Thefe are large rough feeds, of an irregularly triangular figure, of a blackifh colour on the outfide, and yellowifh or whitifh within: they are ufually brought from Italy; the plant is not very common in this country, though it bears our fevereft colds. They have a difagreeable fmell, and a very naufeous bitterifh, burning tafte. Staverfacre was employed by the ancients as a cathartic; but it operates with fo much violence both upwards and downwards, that its internal ufe has been, among the generality of practitioners, for fome time laid afide. It is chiefly employed in external applications for fome kinds of cutaneous eruptions, and for deftroying lice and other infects; infomuch, that from this virtue it has received its name, in different languages; *herba pedicularis*, *herbe aux poux*, *laufskraut*, *loufewort*, *&c.*

STIBIUM, vide ANTIMONIUM.

STOECHAS, [*Brun.*] *Flos.*

Lavendula ftoechas Lin.

Arabian ftoechas, or French lavender-flowers.

This is a fhrubby plant, confiderably fmaller than the common lavender. The flowery heads are brought from Italy and the fouthern parts of France:

France: they are very apt to grow mouldy in the paſſage; and even when they eſcape this inconvenience, are generally much inferior to thoſe raiſed in our gardens. The beſt ſtechas which we receive from abroad, has no great ſmell or taſte: Pomet affirms, that ſuch as the ſhops of Paris are ſupplied with is entirely deſtitute of both; whilſt that of our own growth, either when freſh or when carefully dried, has a very fragrant ſmell, and a warm, aromatic, bitteriſh, ſubacrid taſte; diſtilled with water, it yields a conſiderable quantity of a fragrant eſſential oil; to rectified ſpirit it imparts a ſtrong tincture, which inſpiſſated proves an elegant aromatic extract. This aromatic plant is rarely met wit in preſcription; the only officinal compoſitions into which it was admitted, were the mithridate and theriaca.

There is another plant called *ſtechas*, which from the beauty and durability of its flowers has of late years had a place in our gardens, and whoſe aromatic qualities render it worthy of attention; this is the *gnaphalium arenarium Lin.* the golden ſtechas, goldilocks, or yellow caſſidony; its flowers ſtand in umbels on the tops of the branches; they are of a deep ſhining yellow colour, which they retain in perfection for many years; their ſmell is fragrant and agreeable, ſomewhat of the muſky kind; their taſte warm, pungent, and ſubaſtringent; they impart their flavour to water in diſtillation, and by infuſion to rectified ſpirit.

STRAMONIUM [*Ed.*] *Herba*

Datura ſtramonium Lin.

Thorn apple; the herb.

The ſtramonium is one of thoſe vegetables commonly conſidered as a ſtrong narcotic poiſon, which was highly recommended to the attention of practitioners by Dr Stoerk of Vienna. It grows indigenous in ſome parts of Britain, among rubbiſh and on dunghills. It has been uſed internally, under the form of an extract or inſpiſſated juice from the leaves. This extract has been chiefly employed in maniacal caſes; and when given in doſes from one to ten grains or upwards in the courſe of the day, it has been alleged to be attended with ſurpriſing effects on the authority not only of Dr Stoerk, but of Dr Odhelius, Dr Wedenberg, and others. Dr Odhelius in particular informs us, that of fourteen patients to whom he gave it, eight were completely cured, five were relieved, and one only received no benefit. We have not, however, heard of its being equally ſucceſsful in Britain; and it is here ſo little employed as to have ſtill no place in the pharmacopœia of the London college. But we cannot help thinking, that it deſerves the attention of practitioners, and well merits a trial, in affections often incurable by other means. The powder of the leaves or ſeeds promiſes to furniſh a more certain or convenient formula than the inſpiſſated juice. Beſides maniacal caſes, the ſtramonium has been alſo employed, and ſometimes with advantage in convulſive and epileptic affections. It is not only taken internally, but has alſo been uſed externally. An ointment prepared from the leaves of the ſtramonium has been ſaid to give eaſe in external inflammations and in hæmorrhoids.

STYRAX CALAMITA [*Lon. Ed.*] *Reſina.*

Styrax officinalis Lin.

Storax.

This is an odoriferous reſinous ſubſtance, exuding from a tree growing in the warmer climates.

It has been cuſtomary to diſtinguiſh three ſorts of ſtorax, though only one is uſually met with in the ſhops.

1. *Styrax calamita*, or *ſtorax in the cane*, ſo called from its having been formerly brought incloſed in reeds from Pamphylia. It is either in ſmall diſtinct tears, of a whitiſh or reddiſh colour, or in larger maſſes compoſed of ſuch.

2. *Storax in the lump*, or *redſtorax*. This is in maſſes of an uniform texture and yellowiſh red or browniſh colour; though ſometimes likewiſe interſperſed with a few whitiſh grains. Of this ſort there has been ſome lately to be met with in the ſhops under the name of *ſtorax in the tear*.

3. The *common ſtorax* of the ſhops is in large maſſes, conſiderably lighter and leſs compact than the foregoing: it appears upon examination to be compoſed of a fine reſinous juice, mixed with a quantity of ſaw-duſt. For what purpoſe this addition is made, it is difficult to ſay, but it can ſcarce be ſuppoſed to be done with any fraudulent view, ſince the ſaw-duſt appears at ſight. This common ſtorax is much leſs eſteemed than the two firſt ſorts; though, when freed from the woody matter, it proves ſuperior in point of fragrance to either of them. Rectified ſpirit, the common menſtruum of reſins, diſſolves the ſtorax, leaving the wood behind: nor does this tincture loſe conſiderably of its valuable parts, in being inſpiſſated to a ſolid conſiſtence; whilſt aqueous liquors elevate almoſt all the fragrancy of the ſtorax.

Storax is one of the moſt agreeable of the odoriferous reſins, and may be exhibited to great advantage in languors and debilities of the nervous ſyſtem; it is not, however, much uſed in common practice.

STYRAX LIQUIDA [*Dan.*]
Liquidambar ſtyraciflua Lin.
Liquid ſtorax.

The genuine liquid ſtorax, according to Petiver's account, is obtained from a tree growing in the iſland Cobros in the Red Sea: the preparers of this commodity yearly clear off the bark of the tree, and boil it in ſea-water to the conſiſtence of bird lime; the reſinous matter which floats upon the ſurface is taken off, liquified again in boiling water, and paſſed through a ſtrainer. The purer part which paſſes through, and the more impure which remains on the ſtrainer, and contains a conſiderable portion of the ſubſtance of the bark, are both ſent to Mocca; from whence they are ſometimes, though very rarely, brought to us. The firſt is of the conſiſtence of honey, tenaceous, of a reddiſh or aſh brown colour, an acrid unctuous taſte, approaching in ſmell to the ſolid ſtorax, but ſo ſtrong as to be diſagreeable: the other is full of woody matter, and much weaker in ſmell.

The genuine liquid ſtorax is even at Mocca both a rare commodity and ſold at a very high price, and it has ſeldom entered the ſhops of our apothecaries. A reſinous juice, poſſeſſing ſomewhat of the ſame ſenſible qualities, brought from the Spaniſh provinces in South America; and perhaps the product of the ſame tree is ſometimes ſold in place of it: But much more frequently what we meet with under this name is an artificial compound of ſolid ſtorax, common reſin, wine, and oil, beat up together to a proper conſiſtence. Concerning the real virtues of liquid ſtorax, then, obſervations are altogether wanting: hence the London and Edinburgh colleges have expunged it from the catalogue of officinals.

SUC-

SUCCINUM [*Lond. Ed.*]
Amber.

This is a ſolid, brittle, bituminous ſubſtance, dug out of the earth, or found upon the ſea-ſhores: the largeſt quantities are met with along the coaſts of Poliſh Pruſſia and Pomerania. It is of a white yellow, or brown colour, ſometimes opake, and ſometimes very clear and tranſparent. The dark-coloured and opake ſorts, by digeſtion with certain expreſſed oils and animal fats, become clearer, paler coloured, more pellucid, and conſiderably harder. Amber boiled in water, neither ſoftens nor undergoes any ſenſible alteration: expoſed to a greater heat, without addition, it melts into a black maſs like ſome of the more common bitumens: ſet on fire, its ſmell reſembles that which ariſes from the finer kinds of pitcoal: diſtilled in a retort, it yields an oil and a volatile acidulous ſalt.

Amber in ſubſtance has very little ſmell or taſte; and hence it has by ſome been reckoned a mere inactive earthy body. It was formerly accounted an abſorbent, and as ſuch had a place in the compound powder of crabs-claws: it certainly has no title to this claſs of medicines, as not being acted upon by any acid. It is ſuppoſed to be of ſervice in the fluor albus, gleets, hyſteric affections, &c.; and with theſe intentions is ſometimes given in the form of impalpable powder, to the quantity of a dram. A tincture of amber made in rectified ſpirit, to which it imparts a bitteriſh aromatic taſte and a fragrant ſmell, promiſes to be of ſervice in theſe diſorders. Boerhaave extols this tincture as having incredible efficacy in all thoſe diſtempers which proceed from weakneſs and relaxation, and in hypochondriacal, hyſterical, and cold languid caſes. If part of the ſpirit be abſtracted by a gentle heat, the remainder proves a very elegant aromatic balſam, which is perhaps one of the moſt uſeful preparations obtainable from this concrete.

Amber in the ſtate of powder formerly entered ſeveral officinal compoſitions, from all which it is now rejected: but it is the baſis of an oil and ſalt afterwards to be mentioned among the preparations, which are ſometimes uſed in the ſtate in which they are at firſt obtained, but more frequently in a purified or rectified ſtate; preparations which fall to be mentioned hereafter.

SULPHUR [*Lond.*]
Sulphuris flores. [*Ed.*]
Sulphur, and flowers of ſulphur.

Sulphur, or brimſtone, is a yellow ſubſtance, of the mineral kingdom, fuſible in a ſmall degree of heat, totally volatile in a ſtronger, readily inflammable, burning with a blue flame, which is accompanied with a ſuffocating acid fume. It diſſolves in alkaline liquors and in oils; not in acids, water, or vinous ſpirits.

Greateſt part of the ſulphur met with in the ſhops, is obtained from certain ores by a kind of diſtillation, or artificially compoſed by uniting the vitriolic acid with inflammable matters. At ſome of the Saxon ſulphur-works, from whence we are chiefly ſupplied, certain minerals abounding with vitriolic acid, but containing little or no ſulphur, being ſtratified with wood, and the latter ſet on fire, a large quantity of fine ſulphur is produced. It is uſually brought to us in large irregular maſſes, which are afterwards melted and caſt into cylindrical rolls with the addition of ſome coarſe reſin, flower, or the like; whence the paler colour of the rolls. Sulphur is alſo not unfrequently found native in the earth, ſometimes in tranſparent pieces of a greeniſh or bright yellow colour; but more commonly

in opaque grey ones, with only some streaks of yellow. This last is the sort which is understood by the name *sulphur vivum;* though that met with under this name in the shops, is no other than the dross remaining after the sublimation of sulphur. All the sorts of sulphur are, when perfectly pure, in no respect different from each other. Notwithstanding the preference given by some to the more uncommon fossil sorts, these last are the least proper for medicinal purposes, as being the most subject to an admixture of foreign matter both of the metallic and arsenical kind.

Pure sulphur loosens the belly, and promotes insensible perspiration: it seems to pass through the whole habit, and manifestly transpires thro' the pores of the skin, as appears from the sulphureous smell of persons who have taken it, and from silver being stained in their pockets of a blackish colour, which is the known effect of sulphureous fumes. It is a celebrated remedy against cutaneous diseases, both given internally and externally applied. It has likewise been recommended in coughs, asthmas, and other disorders of the breast and lungs; and particularly in catarrhs of the chronic kind. But it is probable, that the benefit derived from it in these cases, is principally, if not entirely, to be attributed to its operation as a gentle laxative. And with this intention it is frequently used with great advantage in hæmorrhoidal affections, and many other diseases in which it is proper to keep the belly gently open. Tho' sulphur be not soluble in water, yet boiling water poured upon it, and kept in a close vessel, obtains some impregnation. This water has by some been highly extolled as a very effectual remedy for preventing returns of gout and rheumatism.

The common dose of sulphur rarely exceeds a scruple, tho' Geoffroy goes as far as two drams.

Sulphur is the basis of two formulæ in our pharmacopœias, troches and an ointment; the former intended for internal use, the latter to be employed externally.

It is remarkable of this concrete, that though itself a medicine of considerable efficacy, it nevertheless restrains that of some others of the most powerful kind. Mercury is rendered, by the admixture of sulphur, inactive; and the virulent antimonial regulus almost so. Hence, when antimonial and mercurial medicines exceed in operation, sulphur has been given for abating their violence: but it is now found that it has little effect in restraining their action; and it is probable, that the influence it has depends entirely on its operating as a gentle laxative. Even the corrosive poison arsenic, by the addition of sulphur, becomes almost innocent; and hence, if a small proportion of arsenic should be contained in sulphur, it possibly may not receive from thence any poisonous qualities.

SUMACH [*Brun.*] *Folium, semen.*

Rhus coriaria Lin.

Common sumach; the leaves and seeds.

This tree, or shrub, is cultivated in some places on account of the culinary uses of its fruits, and for the purposes of the dyers, &c. among us, it is met with only in the gardens of the curious. The seeds or berries are of a red colour, in shape round and flat. Both these and the leaves are moderately astringent, and have sometimes been exhibited with this intention, but are now become strangers to the shops.

TA-

TACAMAHACA [*Brun.*]
Resina.
Populus balsamifera Lin.
Tacamahaca; the resin.

This resinous substance is obtained from a tall tree, which grows spontaneously on the continent of America, and in a sheltered situation bears the winters of our own climate. Two sorts of this resin are sometimes to be met with. The best, called from its being collected in a kind of gourd-shells, *tacamahaca in shells*, is somewhat unctuous and softish, of a pale yellowish or greenish colour, an aromatic taste, and a fragrant delightful smell, approaching to that of lavender and ambergris. This sort is very rare: that commonly found in the shops is in semitransparent grains or glebes, of a whitish, yellowish, brownish, or greenish colour, of a less grateful smell than the foregoing. The first is said to exude from the fruit of the tree, the other from incisions made in the trunk. This resin is said to be employed among the Indians, externally, for discussing and maturating tumours, and abating pains and aches of the limbs. The fragrance of the finer sort sufficiently points out its being applicable to different purposes.

TAMARINDUS [*Lond. Ed.*]
Fructus.
Tamarindus indica Lin.
Tamarinds; the fruit.

Tamarinds are the fruit of a tree growing in the East and West Indies. It is a pod resembling a bean cod, including several hard seeds, together with a dark coloured viscid pulp of a pleasant acid taste: the East India tamarinds are longer than the West India sort; the former containing six or seven seeds each, the latter rarely above three or four. The pulp of these fruits, taken from the quantity of two or three drams to an ounce or more, proves gently laxative or purgative; and at the same time by its acidity, quenches thirst, and allays immoderate heat. It increases the action of the purgative sweets, cassia and manna, and weakens that of the resinous cathartics. Some have supposed it capable of abating the virulence of antimonial preparations; but experience shows that it has rather a contrary effect, and that all vegetable acids augment their power. Tamarinds are an ingredient in the electary of cassia, the lenitive electary, and decoction of tamarinds with senna.

TANACETUM [*Lond. Ed.*]
Flos, herba.
Tanacetum vulgare Lin.
Tansy; the flower and herb.

Tansy grows wild by road sides and the borders of fields, and is frequently also cultivated in gardens both for culinary and medicinal uses: it flowers in June and July. Considered as a medicine, it is a moderately warm bitter, accompanied with a strong, not very disagreeable flavour: some have had a great opinion of it in hysteric disorders, particularly those proceeding from a deficiency or suppression of the uterine purgations. The leaves and seeds have been of considerable esteem as anthelmintics; the seeds are less bitter, and more acrid and aromatic, than those of rue, to which they are reckoned similar; or of santonicum, for which they have been frequently substituted.

An infusion of tansy, drunk in a manner similar to tea, has been by some strongly recommended as a preventive of the return of gout.

TAPSUS BARBATUS, vide VERBASCUM.

TARAXACUM [*Lond. Ed.*] *Radix, herba.*

Leontodon taraxacum Lin.

Dandelion, the leaves and root.

This plant is very common in grafs fields and uncultivated places. The root, leaves, and ftack, contain a large quantity of a bitter milky juice. There is reafon to believe that they poffefs very confiderable activity; and with that intention they have fometimes been employed with fuccefs. Boerhaave efteems them capable, if duly continued, of opening very obftinate obftructions of the vifcera. A fpirit obtained from them by diftillation, after previous fermentation, has been ftrongly recommended by Profeffor Delius of Erlang, in every diforder where faponaceous, attenuating, or refolvent medicines, can be of ufe, particularly in afthmatic diforders, in coughs proceeding from glandular obftructions, and in hydropic affections.

TARTARUM [*Ed.*]

Tartar is a faline fubftance, confifting of the vegetable alkali fuperfaturated with acid. It is thrown off from wines to the fides and bottom of the cafk: In this ftate it is mixed with earthy, oily, and colouring matter; and when it has a deep brown colour, as that from red wine, it is commonly called *red*, and when of a paler colour, *white tartar*. It is purified by diffolving it in boiling water, and feparating the earthy part by filtring the boiling folution. On cooling the folution, it depofites irregular cryftals, containing the oily and colouring matters, which are feparated by boiling the mafs with a white clay. The tartar thus purified, when cryftallifed, or in powder, is called *cream of tartar*. If this be expofed to a red heat, its acid flies off; and what remains is the vegetable alkali, or falt of tartar. If we add lime to a boiling folution of pure tartar, the lime falls down with the acid, and the pure alkali fwims in the water above. The lime is feparated by any acid of a ftronger attraction to it, as the vitriolic acid, which is added in a diluted ftate, the whole ftirred for fome time, and ftrained off; the acid of tartar paffes through, and may be had by evaporation in the form of rhomboidal cryftals. The folubility of tartar in water is much promoted by borax.

The virtues of tartar are thofe of a mild, cooling, aperient, laxative medicine. It is much ufed in dropfy; and fome allege that it has good effects as a deobftruent, in dropfy from fchirrus. Taken from half an ounce to an ounce, it proves a gentle, though effectual purgative: Angelus Sala relates, that he was cured of an habitual colic by purging himfelf a few times with fix drams of the crude falt, after many other medicines had been tried to no purpofe.

The cryftals of tartar are in daily ufe, merely by themfelves, either taken in powder or diffolved in water; and there are perhaps few medicines more commonly employed.

This falt is an ingredient in the compound infufion of fenna, compound powder of fenna, of jallap, and of fcammony; and it is ufed for diffolving or corroding fome metallic bodies, particulary antimony, from which it receives a ftrong emetic impregnation, as in the preparation formerly called *emetic tartar*, but now more properly ftyled *antimonium tartarizatum*.

TEREBINTHINA [*Lond. Ed.*] *Refina.*

Pinus larix Lin.

Turpentine.

The turpentines are refinous juices ex-

extracted from trees of the pine-tribe. There are four kinds of turpentine diſtinguiſhed in the ſhops.

TEREBINTHINA CHIA, ſive CYPRIA.

Chian, or Cyprus turpentine.

This juice is generally about the conſiſtence of thick honey, very tenacious, clear, and almoſt tranſparent, of a white colour, with a caſt of yellow, and frequently of blue: it has a warm, pungent, bitteriſh taſte; and a fragrant ſmell, more agreeable than any of the other turpentines.

The turpentine brought to us, is extracted in the iſlands whoſe names it bears, by wounding the trunk and branches a little after the buds have come forth: the juice iſſues limpid, and clear as water, and by degrees thickens into the conſiſtence in which we meet with it. A like juice exuding from this tree in the eaſtern countries, inſpiſſated by a ſlow fire, is of frequent uſe, as a maſticatory, among the Perſian ladies, who, as Kœmpfer informs us, are continually chewing it, in order to faſten and whiten the teeth, ſweeten the breath, and promote appetite.

TEREBINTHINA VENETA.

Venice turpentine.

This is uſually thinner than any of the other ſorts, of a clear, whitiſh, or pale yellowiſh colour, a hot, pungent, bitteriſh, diſagreeable taſte, and a ſtrong ſmell, without any thing of the fine aromatic flavour of the Chian kind.

What is uſually met with in the ſhops, under the name of *Venice turpentine*, comes from New England; of what tree it is the produce, we have no certain account: the finer kinds of it are in appearance and quality not conſiderably different from the true ſort above deſcribed.

TEREBINTHINA ARGENTORATENSIS.

Straſburgh turpentine.

This, as we generally meet with it, is of a middle conſiſtence betwixt the two foregoing, more tranſparent, and leſs tenacious than either; its colour a yellowiſh brown. Its ſmell is very fragrant, and more agreeable than that of any of the other turpentines, except the Chian; in taſte it is the bittereſt, yet the leaſt acrid.

This refin is obtained from the two ſorts of fir-trees, the moſt plentiful, and perhaps the only ones, that grows ſpontaneouſly in Europe. There is another, whoſe reſin is much ſuperior to the common turpentine, and has ſometimes been brought to us from abroad under the name of *balſamum canadenſe*. The Virginian, or Canada fir, though not a native of this climate, has been found to endure its ſevereſt colds.

TEREBINTHINA COMMUNIS.

Common turpentine.

This is the coarſeſt, heavieſt, and in taſte and ſmell the moſt diſagreeable, of all the ſorts: it is about the conſiſtence of honey, of an opaque browniſh white colour.

This is obtained from the wild pine, a low undhandſome tree, common in different parts of Europe. This tree is extremely reſinous, and remarkably ſubject to a diſeaſe from a redundance and extravaſation of its reſin, inſomuch that, without due evacuation, it ſwells and burſts. The juice as it iſſues from the tree is received in trenches made in the earth, and afterwards freed from the groſſer impurities by colature through wicker baſkets.

All these juices yield in distillation with water an highly penetrating essential oil, a brittle insipid resin remaining behind. With regard to their medical virtues, they promote urine, cleanse the parts concerned in the evacuation thereof, and detcrge internal ulcers in general; and at the same time, like other bitter hot substances, strengthen the tone of the vessels: they have an advantage above most other acrid diuretics, that they gently loosen the belly. They are principally recommended in gleets, the fluor albus, and the like; and by some in calculous complaints: where these last proceed from the sand or gravel, formed into a mass by viscid mucous matter, the turpentines, by dissolving the mucus, promote the expulsion of the sand; but where a calculus is formed, they can do no service, and only ineffectually irritate or inflame the parts. In all cases accompanied with inflammation, these juices ought to be abstained from, as this symptom is increased; and not unfrequently occasioned, by them. It is observable, that the turpentines impart, soon after taking them, a violent smell to the urine; and have this effect though applied only externally to remote parts; particularly the Venice sort. This is accounted the most powerful as a diuretic and detergent; and the Chian and Strasburgh as corroborants. The common turpentine, as being the most offensive, is rarely given internally; its principal use is in plasters and ointments among farriers, and for the distillation of the oil, or spirit, as it is called. The dose of these juices is from a scruple to a dram and a half: they are most commodiously taken in the form of a bolus, or dissolved in watery liquors by the mediation of the yolk of an egg or mucilage. Of the distilled oil, a few drops are a sufficient dose: this is a most potent, stimulating, detergent diuretic, oftentimes greatly heats the constitution, and requires the utmost caution in its exhibition. Taken internally, when mixed with honey, it has been alleged to prove a powerful remedy in obstinate rheumatic cases, particularly in ischias.

TERRA JAPONICA, vide CATECHU.

TESTÆ OSTERORUM [*Lond.*]

Ostrea edulis Lin.

Oyster shells.

These, in their natural state, furnish us with an absorbent powder of a restringent quality, and sometimes they are employed to restrain loosenesS arising from acidity. When calcined, they are often employed for making lime-water.

THEA [*Brun.*] *Folium.*

Thea bohea et viridis Lin.

Tea; the leaf.

The several sorts of tea met with among us, are the leaves of the same plant, collected at different times, and cured in a somewhat different manner; the small young leaves very carefully dried, are the finer green: the older afford the ordinary green and bohea. The two first have a sensible flavour of violets: the other of roses: the former is the natural odour of the plant; the latter, as Neumann observes, is probably introduced by art: some of the dealers in this commodity in Europe, are not ignorant that bohea tea is imitable by the leaves of certain common plants, artificially tinctured and impregnated with the rose flavour. The taste of both sorts is lightly bitterish, subastringent, and somewhat aromatic. The medical virtues attributed to these leaves are sufficiently numerous, though few

of them have any juſt foundation: little more can be expected from the common infuſions than that of a diluent, acceptable to the palate and ſtomach: the diuretic, diaphoretic, and other virtues for which they have been celebrated, depend more on the quantity of warm fluid, than any particular qualities which it gains from the tea. Nothing ariſes in diſtillation from either ſort of tea with rectified ſpirit; water elevates the whole of their flavour.

Good tea, in a moderate quantity, ſeems to refreſh and ſtrengthen; but if taken in a recent highly flavoured ſtate, and in conſiderable quantity, its uſe is apt to be ſucceeded by weakneſs and tremors, and other ſimilar conſequences reſulting from the narcotic vegetables. Yet it is highly probable, that many of the bad as well as good effects ſaid to reſult from it, are the conſequences of the warm water.

THLAPSI [*Brun.*] *Semen.*
Thlapſi arvenſe Lin.
Mithridate muſtard; the ſeed.

Two ſorts of Thlapſi are uſed promiſcuouſly; they both grow wild; their ſeeds have an acrid biting taſte like common muſtard, with which they agree in medical qualities.

THUS MASCULUM, vide OLIBANUM.

THUS VULGARE [*Lond.*] *Reſina.*
Common frankincenſe.

This is a ſolid, brittle reſin, brought to us in little glebes or maſſes, of a browniſh or yellowiſh colour on the outſide, internally whitiſh or variegated with whitiſh ſpecks; of a bitteriſh, acrid, not agreeable taſte, without any conſiderable ſmell. It is ſuppoſed to be the produce of the pine tree which yields the terebinthina communis; and to concrete on the ſurface of the terebinthinate juice ſoon after it has iſſued from the plant. It gives name to one plaſter, the emplaſtrum thuris, and is a principal ingredient in another, the emplaſtrum ladani.

THYMUS [*Ed.*] *Herba.*
Thymus vulgaris Lin.
Common thyme; the herb.

This plant is frequent in our gardens, and flowers in June and July. It has an agreeable aromatic ſmell, and a warm pungent taſte; which it imparts by infuſion to rectified ſpirit, and ſends over in diſtillation with water; along with the water ariſes an eſſential oil, extremely hot and pungent. This oil is often ſold in the ſhops for that of origanum. It frequently gives eaſe in caſes of odontalgia, when topically applied to a caries tooth.

TILIA [*Suec.*] *Flores.*
Tilia Europæa Lin.
The lime, or linden tree; its flowers.

The lime tree has been much valued on account of its quick growth and pleaſant ſhade; it flowers in July, and loſes its leaves ſoon after. The flowers are made uſe of chiefly on account of their agreeable flavour, which water extracts from them by infuſion, and elevates in diſtillation. Among the writers on the materia medica, they have the character of an antiepileptic, and a ſpecific in all kinds of ſpaſms and pains. Frederick Hoffman relates, that he knew a chronical epilepſy cured by the uſe of an infuſion of theſe flowers drank as tea.

TINCAR, vide BORAX.

TOR-

TORMENTILLA [*Lond. Ed.*] *Radix.*

Tormentilla erecta Lin.

Tormentil, or ſeptfoil; the root.

Tormentil is found wild in woods and on commons: it has long ſlender ſtalks, with uſually ſeven long narrow leaves at a joint; the root is for the moſt part crooked and knotty, of a blackiſh colour on the outſide, and a reddiſh within. This root has an auſtere ſtyptic taſte, accompanied with a ſlight kind of aromatic flavour; it is one of the moſt agreeable and efficacious of the vegetable aſtringents, and is employed with good effect in all caſes where medicines of this claſs are proper. It is more uſed, both in extemporaneous preſcription and in officinal compoſition, than any of the other ſtrong vegetable aſtringents: it is an ingredient in the two compound powders of chalk. A tincture made from it with rectified ſpirit poſſeſſes the whole aſtringency and flavour of the root, and loſes nothing of either in inſpiſſating.

TRAGACANTHA, vide GUMMI TRAGACANTHA.

TRICHOMANES [*Ed.*] *Herba:*

Aſplenium trichomanes Lin.

Maidenhair; the herb.

This is one of the herbs called, from the ſmallneſs of their ſtalks, capillary: it is found wild in different parts of Britain, upon old walls, and in ſhady places. The leaves have a mucilaginous, ſweetiſh, ſubaſtringent taſte, without any particular flavour; they are eſteemed uſeful in diſorders of the breaſt, proceeding from a thickneſs and acrimony of the juices; and are likewiſe ſuppoſed to promote the expectoration of tough phlegm, and to open obſtructions of the viſcera. They are uſually directed in infuſion or decoction, with the addition of a little liquorice. A ſyrup prepared from them, though it has now no place in our pharmacopœias, is frequently to be met with in our ſhops, both as prepared at home and imported from abroad. A little of theſe ſyrups mixed with water makes a very pleaſant draught. The ſyrup brought from abroad has an admixture of orange-flower water.

TRIFOLIUM PALUDOSUM [*Lond. Ed.*] *Herba.*

Menyanthes trifoliata Lin.

Buck-bean, or marſh trefoil; the herb.

This plant grows wild in moiſt marſhy places; it has three oval leaves, ſtanding together upon one pedicle which iſſues from the root; their taſte is very bitter, and ſomewhat nauſeous. Marſh trefoil is an efficacious aperient and deobſtruent, promotes the fluid ſecretions, and if liberally taken, gently looſens the belly. Some recommend it in ſcrophulous diſorders and other ill-conditioned ulcers; inveterate cutaneous diſcaſes have been removed by an infuſion of the leaves drank to the quantity of a pint a day at proper intervals, and continued for ſome weeks. Boerhaave relates, that he was relieved of the gout by drinking the juice mixed with whey.

TRITICUM [*Lond.*] *Farina, amylum.*

Triticum hybernum Lin.

Wheat; flour and ſtarch.

Wheat, a common article of food, is more glutinous and nutritious than moſt other kinds of grain. The flour, or the ſtarch prepared from it, form with water a ſoft viſcid ſubſtance, which has been taken with good ſucceſs in diarrhœas and dyſenteries. Starch is an ingredient in the compound powder of gum tragacanth, and the white pectoral troches,

troches, which are now more properly ſtyled ſtarch troches.

Bran contains, beſides the huſks or ſhells of the wheat, a portion of its farinaceous matter: This is leſs glutinous than the finer flour, and is ſuppoſed to have a detergent quality. Infuſions of bran are not unfrequently employed with this intention externally, and ſometimes likewiſe taken inwardly.

Bread, carefully toaſted, and infuſed, or lightly boiled in water, imparts a deep colour, and a ſufficiently agreeable reſtringent taſte. This liquor, taken as common drink, has done good ſervice in a weak lax ſtate of the ſtomach and inteſtines; and in bilious vomiting and purging, or the cholera morbus. Examples are related in the Edinburgh Eſſays of ſeveral caſes of this kind cured by it, without the uſe of any other medicine.

It is alſo a very common and a very proper drink in diſeaſes of the febrile kind.

When a farinaceous powder is ſteeped in cold water and ſtrained through a cloth, a glutinous part remains in the cloth, which ſome ſuppoſe to be the nutrient principle, as it is quite ſimilar to animal jelly: a ſtarch paſſes through with the water, ſettles at the bottom, and a ſweet mucilage is kept diſſolved in the water. It is probably the juſt proportion of theſe three ingredients in wheat which gives that grain a preference in diet over the reſt. The gluten is inſoluble in water; but when mixed with the other two, and ſeaſoned with ſalt, in that ſtate made to ferment by yeaſt or leaven, and this fermentation, checked by the heat of the oven, the ingredients become ſo intimately united, that they cannot be ſeparated; the viſcidity of the gluten is diminiſhed, and the whole thus forms a very ſoluble and nutritious bread.

TURPETHUM [*Brun.*] *Radicis, cortex.*

Convolvulus turpethum Lin.

Turbith; the cortical part of the root.

The cortical part of this root is brought to us in oblong pieces, of a brown or aſh-colour on the outſide, and whitiſh within. The beſt is ponderous, not wrinkled, eaſy to break, and diſcovers a large quantity of reſinous matter to the eye: its taſte is at firſt ſweetiſh; chewed for a little time, it becomes acrid, pungent, and nauſeous This root is a cathartic, not of the ſafeſt or moſt certain kind. The reſinous matter, in which its virtue reſides, appears to be very unequally diſtributed, inſomuch that ſome pieces, taken from a ſcruple to a dram, purge violently; while others, in larger doſes, have ſcarce any effect at all. An extract, made from the root, is more uniform in ſtrength, though not ſuperior or equal, to purgatives more common in the ſhops.

TUSSILAGO [*Lond. Ed.*] *Herba, flores.*

Tuſſilago farfara Lin.

Colt'sfoot; the herb and flowers.

This grows wild in watery places, producing yellow flowers in February and March; theſe ſoon fall off, and are ſucceeded by large roundiſh leaves, hairy underneath: their taſte is herbaceous, ſomewhat glutinous, and ſubacrid. Tuſſilago ſtands recommended in coughs, phthiſis, and other diſorders of the breaſt and lungs, and ſome uſe it in ſcrophula. It is chiefly directed to be taken with milk; and upon this probably, more than on the tuſſilago itſelf, any benefit derived from it in practice is to be explained.

TUTIA [*Ed.*]

Tutty.

This is an impure ſublimate of zinc,

zinc, or an argillaceous ſubſtance impregnated therewith, formed into tubulous pieces like the bark of a tree. It is moderately hard and ponderous; of a brownifh colour, and full of ſmall protuberances on the outſide, ſmooth and yellowiſh within; ſome pieces have a blueiſh caſt, from minute globules of zinc being thrown up by the heat in its metallic form. Tutty is celebrated as an ophthalmic, and frequently employed as ſuch in unguents and collyria: it gives name to an officinal ophthalmic ointment.

VALERIANA SYLVESTRIS [*Lond. Ed.*] *Radix.*
Valeriana officinalis Lin.
Wild valerian; the root.

This root conſiſts of a number of ſtrings or fibres matted together, iſſuing from one common head; of a whitiſh or pale brownifh colour: its ſmell is ſtrong like a mixture of aromatics with fetids; the taſte unpleaſantly warm, bitteriſh, and ſubacrid. There is a wild valerian, with broader leaves, of a deeper and ſhining green colour, met with in watery places. Both ſorts have hitherto been uſed indiſcriminately; and Linnæus has joined them into one ſpecies: but the firſt is conſiderably the ſtrongeſt, and loſes of its quality if tranſplanted into ſuch ſoils as the other naturally delights in. The roots, produced in low watery grounds, have a remarkably faint ſmell in compariſon of the others, and ſometimes ſcarce any at all. The roots taken up in autumn or winter, have alſo much ſtronger ſenſible qualities than thoſe collected in ſpring and ſummer. Wild valerian is a medicine of great uſe in nervous diſorders, and is particularly ſerviceable in epilepſies, proceeding from a debility of the nervous ſyſtem. It was firſt brought into eſteem in theſe caſes by Fabius Columna; who by taking the powdered root in the doſe of half a ſpoonful, was cured of an inveterate epilepſy, after many other medicines had been tried in vain. Repeated experience has ſince confirmed its efficacy in this diſorder; and the preſent practice lays conſiderable ſtreſs upon it. It can, however, by no means be repreſented as uniformly, or even frequently, ſucceſsful, and that too although employed in very large doſes. In the Edinburgh Diſpenſary, in caſes of epilepſy in which there was no evidence of local affection, it has been given to the extent of two ounces a day without effect.

Some recommend it as uſeful in procuring ſleep, particularly in fever, even when opium fails: But it is principally uſeful in affections of the hyſterical kind.

The common doſe is from a ſcruple to a dram in powder; and in infuſion, from one to two drams. Its unpleaſant flavour is moſt effectually concealed by a ſuitable addition of mace.

A tincture of valerian in proof ſpirit and in volatile ſpirit are kept in the ſhops.

VERRATRUM, vide HELLEBORUS ALBUS.

VERBASCUM [*Ed.*] *Folium.*
Verbaſcum thapſus Lin.
Mullein; the leaf.

This plant is met with by road ſides and under hedges. It is clothed with ſoft downy leaves, and produces long ſpikes of yellow flowers in July. To the taſte it manifeſts a glutinous quality, and has been recommended as an emollient. Some hold it in eſteem in conſumptions, others have recommended it ſtrongly in dyſenteric affections; but moſt practitioners are diſpoſed to put little dependence on it in either. It has ſometimes, although perhaps ſtill leſs frequently, been employed externally in ill conditioned ulcers.

VE-

VERONICA [*Suec.*] *Herba.*

Veronica officinalis Lin.

Male speedwell; the herb.

This is one of the veronicæ which produce their flowers in clusters at the joints of the stalks: it is a rough procumbent plant, not unfrequently met with on dry commons and in sandy grounds. In taste, smell, and medical virtues, it is similar to the betonica, though the veronica is commonly supposed to have more of an aperient and pectoral virtue, and betony to be rather nervine and cephalic. Hoffman and Joh. Franeus have written express treatises on this plant, recommending infusions of it, drank in the form of tea, as very salubrious in many disorders, particularly those of the breast.

VINCETOXICUM [*Suec.*] *Radix.*

Asclepias vincetoxicum Lin.

Swallow-wort, or tame poison; the root.

This is a native of the warmer climates; it is sometimes met with in our gardens, but rarely perfects its seeds. It is reckoned by botanists a species of apocynum, or dogsbane; from all the poisonous sorts of which it may be distinguished, by yielding a limpid juice, whilst that of the others is milky. The root has a strong smell, especially when fresh, approaching to that of valerian, or nard; the taste is at first sweetish and aromatic, but soon becomes bitterish, subacrid, and nauseous. This root is esteemed sudorific, diuretic, and emmenagogue, and frequently employed by the French and German physicians as an alexipharmac, sometimes as a succedaneum to contrayerva; whence it has received the name of *contrayerva Germanorum.* Among us it is very rarely made use of. It appears from its sensible qualities to be a medicine of much the same kind with valerian, which is probably preferable to it.

VINUM [*Lond. Ed.*]

Wine; the fermented juice of the grape. Among the great variety of wines in common use among us, four are employed in the shops as menstrua for medicinal simples.

Vinum album Hispanicum, Mountain.

Vinum Canarium, Canary or sack.

Vinum Rhenanum, Rhenish.

Vinum Rubrum, Red port.

Wines consist chiefly of water, alcohol, a peculiar acid, the aërial acid, tartar, and an astringent gummy resinous matter, in which the colour of red wines resides, and which is squeezed out from the husks of the grapes. They differ from each other in the proportion of these ingredients, and particularly in that of the alcohol which they contain.

The uses of these liquors as menstrua and vehicles of the virtues of other medicines, will be given hereafter; in this place we shall consider only their effects on the human body. These are, to stimulate the stomach, cheer the spirits, warm the habit, promote perspiration, render the vessels full and turgid, raise the pulse, and quicken the circulation.

Sweet wines are stronger than they appear from the taste, because two impressions strike more feebly when combined than when separate. Red port, and most of the red wines, have an astringent quality, by which they strengthen the tone of the stomach and intestines, and thus prove serviceable for restraining immoderate secretions. Those which are of an acid nature, as Rhenish, pass freely by the kidneys, and gently loosen the belly. It is supposed that these last exasperate or oc-

occaſion gouty and calculous diſorders; and that new wines of every kind have this effect.

Wine is much uſed in fevers of the typhous kind, and often with great ſucceſs, particularly when the appetite ſeems to call for it, and when the ſtomach rejects all food. Claret, Madeira, and Port, are thoſe commonly employed in Britain.

VIOLA [*Lond. Ed.*] *Flos recens.*

Viola odorata Lin.

The March violet; the freſh flower.

This is often found wild in hedges and ſhady places, and flowers in March; the ſhops are generally ſupplied from gardens. In our markets we meet with the flowers of different ſpecies; theſe may be diſtinguiſhed from the foregoing by their being larger, of a pale colour, and of no ſmell. The officinal flowers have a very pleaſant ſmell, and a deep purpliſh blue colour, denominated from them *violet*. They impart their colour and flavour to aqueous liquors: a ſyrup made from this infuſion has long maintained a place in the ſhops, and proves an agreeable and uſeful laxative for children.

VIPERA [*Ed.*]

Coluber berus Lin.

The viper.

The viper is one of the viviparous reptiles, without feet, about an inch in thickneſs, and twenty or thirty in length The poiſon of this ſerpent is confined to its mouth: at the baſis of the fangs, or long teeth which it wounds with, is lodged a little bag containing the poiſonous liquid; a very minute portion of which, mixed immediately with the blood, proves fatal. Our viper-catchers are ſaid to prevent the miſchiefs otherwiſe following from the bite, by rubbing oil olive warm on the part. The fleſh of the viper is perfectly innocent; and ſtrongly recommended as a medicine of extraordinary ſervice in ſcrophulous, leprous, rheumatic, and other obſtinate chronical diſorders. Its virtues, however, in theſe caſes, are probably too much exaggerated. The viper is doubtleſs an high nutritious food; and hence in ſome kinds of weakneſſes, and emaciated habits, is not undeſervedly looked upon as a good reſtorative. To anſwer any valuable purpoſes, freſh vigorous vipers, not ſuch as have been long kept alive after they are caught, ſhould be liberally uſed as food. The wines and tinctures of them can ſcarce be ſuppoſed to receive any conſiderable virtue from the animal; the dry fleſh brought to us from abroad is probably entirely inſignificant.

VIRGA AUREA [*Brun.*] *Herba.*

Solidago virga aurea Lin.

Golden rod; the herb.

This is found wild on heaths and in woods, producing ſpikes of yellow flowers in Auguſt. The leaves have a moderately aſtringent bitter taſte; and hence prove ſerviceable in debility and laxity of the viſcera, and diſorders proceeding from that cauſe.

VISCUS [*Suec.*] *Lignum.*

Viſcus albus Lin.

Miſſeltoe; the wood.

This is a buſhy plant, growing on the trunk and branches of different trees: that met with on the oak is generally preferred, perhaps on account of its being the moſt rare. It may, however, be propagated by art on any trees, by rubbing the berries againſt the bark. This office has hitherto been performed by the thruſh (who feeds on the berries in the

the winter) in clearing his bill from the feeds that ſtick about it. This plant was held in veneration by the ſuperſtition of former ages: it was hung about the neck to prevent witchcraft, and taken internally to expel poiſons. It has been celebrated as a ſpecific in epilepſies, palſies, &c.; virtues, which it were greatly to be wiſhed that experience gave any countenance to: but ſo little reliance is now put upon it, that it is entirely rejected, both by the London and Edinburgh colleges.

VITIS [*Lond.*]
Vitis vinifera Lin.
The vine tree.

The leaves of this tree were formerly celebrated as aſtringents, but have for a long time been entirely diſregarded: their taſte is herbaceous, with only a ſlight roughneſs. The trunk of the tree, wounded in the ſpring, yields a clear, limpid, watery juice: This tear of the vine has been accounted excellent for ſore eyes; and by ſome recommended likewiſe in ardent and malignant fevers, and as a diuretic. The flowers have a pleaſant ſmell, which water elevates from them in diſtillation; along with the water, a ſmall portion of an elegant eſſential oil is ſaid to ariſe, poſſeſſing in great perfection the fragrance of the flowers.—The unripe fruit is of a very harſh, rough, ſour taſte: its expreſſed juice, called verjuice, was of great eſteem among the ancients, and ſtill continues ſo in ſome places, as a cooling aſtringent medicine: a rob and ſyrup were formerly prepared from it.—The ripe fruit or grapes, of which there are ſeveral kinds, properly cured and dried, are the raiſins of the ſhops: the juice by fermentation affords wine, vinegar, and tartar; of all which mention has already been made.

VITRIOLUM ALBUM, *ſive* ZINCI. [*Ed.*]

White vitriol, or vitriol of zinc.

This is chiefly found in its native ſtate in the mines of Goſlar, ſometimes in tranſparent pieces, but more commonly in form of white efflorescences, which are diſſolved in water, and afterwards reduced by evaporation and cryſtalliſation into large maſſes. We rarely meet with this ſort of vitriol pure: it is ordered therefore to be prepared. After the zinc, which is its proper baſis, has been revived by inflammable fluxes, there remains a ſubſtance which is attracted by the magnet, and diſcovers itſelf on other trials alſo to be iron. A ſolution of the vitriol depoſites on ſtanding an ochry ſediment, which generally gives a blue tincture to volatile alkalies, and hence appears to contain copper. White vitriol is ſometimes given from five or ſix grains to half a dram, as an emetic; it operates very quickly, and, if pure, without violence. Externally, it is employed as an ophthalmic, and often made the baſis of collyria, both in extemporaneous preſcription and in diſpenſatories; ſuch as the aqua zinci vitriolati cum camphora of the London pharmacopœia.

VITRIOLUM CŒRULEUM *ſive* CUPRI [*Ed.*]

Blue vitriol, or vitriol of copper, falſely called Roman vitriol.

Greateſt part of the blue vitriol at preſent met with in the ſhops, is ſaid to be artificially prepared by uniting copper with the vitriolic acid. This ſalt has a highly acrid, auſtere, and very nauſeous taſte. It is a ſtrong emetic, and is recommended as ſuch by ſome in incipient phthiſis, when ſuppoſed to be from tubercles. Its principal uſe is externally as an eſcharotic: and for ſtopping hemorrhagies, which it effects by

by coagulating the blood, and contracting the mouths of the veſſels. It is the baſis to an officinal water for this intention.

VITRIOLUM VIRIDE, *ſive* FERRI [*Ed.*]

Green vitriol, or vitriol of iron, commonly called *copperas*.

This is prepared in large quantity at Deptford, by diſſolving iron in the acid liquor which runs from certain ſulphureous pyritæ, expoſed for a length of time to the air. When pure, it is ſimilar in quality to the officinal *ſal martis* or *chalybis*.

The green and blue vitriols (as well as the white) are in many places found native in the earth; though uſually, in this ſtate, neither ſort is free from an admixture of the other: hence vitriols are met with of all the intermediate colours betwixt the graſs green of the one and the ſapphire blue of the other.

The acid of theſe ſalts has the greateſt affinity with zinc, next to this with iron, and with copper the leaſt of all. Hence ſolutions of white vitriol depoſite, on ſtanding, greateſt part of the irony and cupreous matter which they contain; and if ſome freſh zinc be added, the whole. In like manner, upon adding bright poliſhed iron to ſolutions of green vitriol, if it holds any cupreous matter, this will be thrown down. By this means the white and green vitriols may be purified from other metallic bodies. Green vitriol has the general medical effects of iron, but is much leſs frequently employed than ſome other chalybeates.

ULMARIA [*Brun.*] *Radix.*
Spirea ulmaria Lin.

Meadow-ſweet, or Queen of the Meadows; the root.

This herb is frequent in moiſt meadows, and about the ſides of rivers; it flowers in the beginning of June, and continues in flower a conſiderable time. The flowers have a very pleaſant flavour, which water extracts from them by infuſion, and elevates in diſtillation. The leaves are herbaceous. But neither of theſe at preſent enter any pharmacopœias. The roots are uſed in ſome plaſters, in which they have probably no influence.

ULMUS [*Lond. Ed.*] *Cortex interior.*
Ulmus campeſtris Lin.

The elm-tree; the inner bark.

This bark has a mild aſtringent taſte. A decoction formed from it, by boiling an ounce with a pound of water, to the conſumption of one half, has been highly recommended by ſome, particularly by Dr Letſome, in obſtinate cutaneous eruptions.

URTICA [*Lond. Ed.*] *Herba.*
Urtica dioica Lin.

Common nettle; the herb.

The leaves of the freſh nettle ſtimulate, inflame, and raiſe bliſters on thoſe parts of the ſkin which they touch. Hence when a powerful rubefacient is required, ſtinging with nettles has been recommended. It has been alleged to have ſometimes ſucceeded in reſtoring ſenſe and motion to paralytic limbs. Both the herb and ſeed were formerly believed to be lithontriptic and powerfully diuretic; and many other virtues were attributed to them, to which the preſent practice pays no regard. The young leaves are by ſome uſed in the ſpring as a wholeſome potherb

UVA PASSA [*Lond.*]

Raiſins of the ſun; the dried grapes of the *vitis Damaſcena*.

UVÆ

UVÆ PASSÆ *Minores.*

Currants; the dried grapes of the *vitis Corinthiaca.*

The principal uſe of theſe is as an agreeable ſweet; they impart a very pleaſant flavour both to aqueous and ſpirituous menſtrua. The ſeeds or ſtones are ſuppoſed to give a diſagreeable reliſh, and hence are generally directed to be taken out. The raiſins of the ſun are an ingredient in the compound decoction of barley, the tincture of ſenna, and the compound tincture of cardamums.

UVA URSI [*Lond. Ed.*] *Folium.*

Arbutus uva-urſi Lin.

Bears whortleberry; the leaf.

The uva urſi is a low ſhrub, ſomewhat reſembling the myrtle. It ſeems firſt to have been employed in medicine in Spain and the ſouth of France; and it is an indigenous vegetable of theſe countries, but it grows alſo in northern climates, particularly in Sweden and on the hills of Scotland. The leaves have a bitteriſh aſtringent taſte; and their quality in the latter way is ſo conſiderable, that in certain places, particularly in ſome of the provinces of Ruſſia, they are uſed for tanning leather. A watery infuſion of the leaves immediately ſtrikes a very black colour with chalybeates.

The uva urſi ſeems firſt to have been employed in medicine with a view to its aſtringent power. With this intention, it was uſed under the form of decoction, for reſtraining an immoderate flow of the menſes, againſt other hæmorrhagies, in caſes of diarrhœa and dyſentery, and for the cure of cutaneous eruptions. But it had fallen much into diſuſe till its employment was again revived by Dr de Haen of Vienna. He beſtowed very high encomium, upon it, againſt ulcerations of the kidnies, bladder, and urinary paſſages. He repreſents it as capable of curing almoſt every caſe of that kind; and even aſſerts, that in caſes of calculus much benefit is derived from its uſe; patients after the employment of it paſſing their water eaſily and without pain. It has, however, by no means anſwered the expectations which on theſe grounds other practitioners formed of it: But in many affections of the urinary organs, it has proved to be a remedy of ſome uſe; and it has been particularly ſerviceable in alleviating dyſpeptic ſymptoms in nephritic and calculous caſes. It has alſo been ſerviceable in cyſtirrhœa or catarrhus veſicæ; and it has been thought to be ſometimes productive of advantage in diabetes. It is ſometimes uſed under the form of decoction, but moſt frequently in that of powder, from a ſcruple to a dram being taken for a doſe, and repeated two or three times a day.

WINTERANUS CORTEX. [*Brun.*]

Winterania aromatica.

Winter's bark.

This is the produce of a tree growing about the ſouthern promontory of America. It was firſt diſcovered on the coaſt of Magellan by Captain Winter, in the year 1567: the ſailors then employed the bark as a ſpice, and afterwards found it ſerviceable in the ſcurvy; for which purpoſe it is at preſent alſo ſometimes made uſe of in diet-drinks. The true winter's bark is not often met with in the ſhops, canella alba being generally ſubſtituted for it, and by many it is reckoned to be the ſame: There is, however, a conſiderable dif-

difference betwixt them in appearance, and a greater in quality. The winter's bark is in larger pieces, of a more cinnamon colour than the canella; and tastes much warmer and more pungent.

ZEDOARIA [*Lond. Ed.*] *Radix.*

Kempferia rotunda Lin.

Zedoary; the root.

Zedoary is the root of a plant growing in the East Indies. It is brought over in oblong pieces about the thickness of the finger, or in roundish ones about an inch in diameter. Both sorts have an agreeable fragrant smell, and a warm, bitterish, aromatic taste.

In distillation with water, it yields an essential oil, possessing the smell and flavour of the zedoary in an eminent degree; the remaining decoction is almost simply bitter. Spirit likewise brings over some small share of its flavour: nevertheless the spirituous extract is considerably more grateful than the zedoary itself.

ZIBETHUM [*Brun.*]

Viverra zibetha Lin.

Civet.

This is a soft unctuous substance, of a white, brown, or blackish colour, brought from the Brazils, the coast of Guinea, and the East-Indies. It is met with in certain bags, situated in the lower part of the belly of an animal, said to be of the cat kind. The chief use of this drug is in perfumes; it is rarely, if ever, employed for any medicinal purposes.

ZINCUM [*Lond. Ed.*]

Zinc.

This is a semimetal, which is inflammable *per se*, sublimable into flowers, which afterwards remain fixed in the strongest fire, soluble in every acid, not miscible in fusion with sulphur, changing copper into a yellow metal, brass. Several productions of this metal though not generally known to be such, are kept in the shops; as its rich ore calamine, the white vitriol, the pure white flowers of zinc called *pompholyx*, and the more impure tutty. Of several of these we have already had occasion to speak.

The preparations of zinc are employed principally in external applications as ophthalmics. The flowers levigated into an impalpable powder, form with oily substances an useful unguent, and with rose-water, and the like, elegant collyria, for defluctions of thin sharp humours upon the eyes. They are moderately astringent; and act, if the levigation has been duly performed, without acrimony or irritation.

Internally, they have been recommended in epilepsy and other spasmodic affections, both alone and with the cuprum ammoniacum; and some think they prove an useful addition to the Peruvian bark in intermittents.

ZINGEBER [*Lond. Ed.*] *Radix.*

Amomum zingiber Lin.

Ginger; the root.

This root is brought from China, from the East and West Indies. It has a fragrant smell, and a hot, biting, aromatic taste. Rectified spirit extracts its virtues by infusion, in much greater perfection than aqueous liquors; the latter elevate its whole flavour in distillation, the former little or nothing. Ginger is a very useful spice in cold flatulent colics, and in laxity and debility of the intestines: it does not heat so much as those of the pepper kind, but its effects are more durable.

rable. It gives name to an officinal ſyrup, to the *zingiber conditum*, or candied ginger brought from abroad; enters the *electuarium cardiacum*, and ſome other compoſitions.

General TITLES *including ſeveral* SIMPLES.

The five opening roots:	Smallage, Aſparagus, Fennel, Parſley, Butchers broom.
The five emollient herbs:	Marſhmallows, Mallows, Mercury, Pellitory of the wall, Violets.
The four cordial flowers:	Borage, Bugloſs, Roſes, Violets.
The four greater hot ſeeds:	Aniſe, Caraway, Cummin, Fennel.
The four leſſer hot ſeeds:	Biſhopſweed, Stone-parſley, Smallage, Wild carrot.
The four greater cold ſeeds:	Water melons, Cucumbers, Gourds, Melons.
The four leſſer cold ſeeds:	Succory, Endive, Lettuce, Purſlane.

The four capillary herbs: { Maidenhair, English Maidenhair, Wall rue, Caterach.

The four carminative flowers: { Camomile, Feverfew, Dill, Melliot.

The ſimples of each of the above claſſes have been often employed together, under the reſpective general appellations. This practice has entirely ceaſed among us; and accordingly theſe denominations are now expunged both from the London and Edinburgh Pharmacopœias, and they are now retained in very few of the foreign ones. But as theſe articles are frequently mentioned under their general titles by writers of eminence, we imagined that the above enumeration of them might be of ſome uſe.

General Rules *for the Collection and Preſervation of* Simples.

Roots.

Annual roots are to be taken up before they ſhoot out ſtalks or flowers: Biennial ones, chiefly in the autumn of the ſame year in which the ſeeds were ſown: The perennial, when the leaves fall off, and therefore generally in the autumn. Being waſhed clean from dirt, and freed from the rotten and decayed fibres, they are to be hung up in a warm, ſhady, airy place, till ſufficiently dried. The thicker roots require to be ſlit longitudinally, or cut tranſverſely into thin ſlices. Such roots as loſe their virtues by exſiccation, or are deſired to be preſerved in a freſh ſtate, for the greater conveniency of their uſe in certain forms, are to be kept buried in dry ſand.

There are two ſeaſons in which the biennial and perennial roots are reckoned the moſt vigorous, the autumn and ſpring; or rather the time when the ſtalks or leaves have fallen off, and that in which the vegetation is juſt to begin again, or ſoon after it has begun; which times are found to differ conſiderably in different plants.

The college of Edinburgh, in the two firſt editions of their pharmacopœia, directed them to be dug in the ſpring, after the leaves were formed; in the third edition, the autumn

autumn was preferred. The generality of roots appear, indeed, to be moſt efficacious in the ſpring: but as at this time they are alſo the moſt juicy, and conſequently ſhrivel much in drying, and are rather more difficultly preſerved, it is commonly thought moſt adviſable to take them up in autumn. No rule, however, can be given, that ſhall obtain univerſally: arum root is taken even in the middle of ſummer, without ſuſpicion of its being leſs active than at other ſeaſons; while angelica root is inert during the ſummer, in compariſon of what it was in the autumn, ſpring, or winter.

Herbs and Leaves.

Herbs are to be gathered when the leaves have come to their full growth, before the flowers unfold; but of ſome plants the flowery tops are preferred. They are to be dried in the ſame manner as roots.

For the gathering of leaves, there cannot perhaps be any univerſal rule, any more than for roots; for though moſt herbs appear to be in their greateſt vigour about the time of their flowering, or a little before, there are ſome in which the medicinal parts are more abundant at an earlier period.

Thus mallow and marſhmallow leaves are moſt mucilaginous when young, and by the time of flowering approach more to a woody nature. A difference of the ſame kind is more remarkable in the leaves of certain trees and ſhrubs: the young buds, or rudiments of the leaves, of the black poplar tree, have a ſtrong fragrant ſmell, approaching to that of ſtorax; but by the time that the leaves have come to their full growth, their fragrance is exhauſted.

Herbs are directed by moſt of the pharmaceutic writers to be dried in the ſhade; a rule which appears to be very juſt, though it has ſometimes been miſunderſtood. They are not to be excluded from the ſun's *heat*, but from the ſtrong action of the ſolar *light*; by which laſt their colours are very liable to be altered or deſtroyed, much more ſo than thoſe of roots. Slow drying of them in a cool place is far from being of any advantage: both their colours and virtues are preſerved in greateſt perfection when they are dried haſtily by the heat of common fire as great as that which the ſun can impart: the juicy ones, in particular, require to be dried by heat, being otherwiſe ſubject to turn black. Odoriferous herbs, dried by fire till they become friable, diſcover indeed, in this acrid ſtate, very little ſmell; not that the odorous matter is diſſipated; but on account of its not being communicated from the perfectly dry ſubject to dry air; for as ſoon as a watery vehicle is ſupplied, whether by infuſing the plant in water, or by expoſing it for a little time to a moiſt air, the odorous parts begin to be extracted by virtue of the aqueous moiſture, and diſcover themſelves in their full force.

Of the uſe of heat in the drying of plants, we have an inſtance in the treatment of tea among the Chineſe. According to the accounts of travellers, the leaves, as ſoon as gathered, are brought into an apartment furniſhed with a number of little furnaces, or ſtoves, each of which is covered with a clean ſmooth iron plate; the leaves are ſpread upon the plates, and kept rolling with the hands till they begin to curl up about the edges;

they are then immediately ſwept off on tables, on which one perſon continues to roll them, while another fans them that they may cool haſtily: this proceſs is repeated two or three times, or oftener, according as the leaves are diſpoſed to unbend on ſtanding.

Exsiccation of Herbs and Flowers.

Herbs and flowers are to be dried by the gentle heat of a ſtove or common fire, and only in that quantity at a time by which the exſiccation may be very ſoon finiſhed. By this means their ſtrength is beſt preſerved; and this is indicated in proportion as they retain their native colour.

But the leaves of hemlock, and ſome other herbs replete with a ſubtile volatile matter, are to be beat immediately after the exſiccation, and preſerved in glaſs-veſſels, well ſhut.

Flowers.

Flowers are to be gathered when moderately expanded, on a clear dry day, before noon. Red roſes are taken before they open, and the white heels clipped off and thrown away.

The quick drying, above recommended for the leaves of plants, is more particularly proper for flowers; in moſt of which both the colour and ſmell are more periſhable than in leaves, and more ſubject to be impaired by ſlow exſiccation. Of the flowers which come freſh into the apothecaries hands, the only ones employed dry in the London Pharmacopœia are red roſes; and theſe, in all the compoſitions in which they are uſed in a dry ſtate, are expreſsly ordered to be dried haſtily. One of the moſt valuable aromatics of European growth, ſaffron, is a part of a flower, dried on paper on a kind of kiln, with a heat ſufficient to make it ſweat, taking care only not to endanger the ſcorching of it.

It may here be obſerved, that the virtues of flowers are confined to different parts of the flower in different plants. Saffron is a ſingular production growing at the end of the ſtile or piſtil. The active part of camomile flowers is the yellow diſk, or button in the middle; that of lilies, roſes, clove-julyflowers, violets, and many others, the petala or flower-leaves; while roſemary has little virtue in any of theſe parts, the fragrance admired in the flowers of this plant reſiding chiefly in the cups.

Seeds and Fruits.

Seeds ſhould be collected when ripe and beginning to grow dry, before they fall off ſpontaneouſly. Fruits are alſo to be gathered when ripe, unleſs they are ordered to be otherwiſe.

Of the fruits whoſe collection comes under the notice of the apothecary, there are few which are uſed in an unripe ſtate: the principal is the ſloe, whoſe virtue as a mild aſtringent is much diminiſhed by maturation. The fruit of the orange tree, raiſed in our gardens or green-houſes, is ſometimes gathered in a ſtate of much greater immaturity, ſoon after it is formed on the tree, before it has acquired its acid juice; at this time it proves an elegant aromatic bitter, nearly reſembling what are called *Curaſſao oranges*, which appear to be no other than the ſame fruit gathered

at

at the ſame period in a warmer climate.

The rule for collecting ſeeds is more general than any of the others, all the officinal ſeeds being in their greateſt perfection at the time of their maturity. As ſeeds contain little watery moiſture, they require no other warmth for drying them than that of the temperate air in autumn; ſuch as abound with a groſs expreſſible oil, as thoſe commonly called the *cold ſeeds*, ſhould never be expoſed to any conſiderable heat; for this would haſten the rancidity, which, however carefully kept, they are very liable to contract. Seeds are beſt preſerved in their natural huſks or coverings, which ſhould be ſeparated only at the time of uſing; the huſk, or cortical part, ſerving to defend the ſeed from being injured by the air.

Woods and Barks.

The moſt proper ſeaſon for the felling of woods, or ſhaving off their barks, is generally the winter.

No woods of our own growth are now retained by the London or Edinburgh colleges. The only two which had formerly a place in the catalogues of ſimples were the juniper and box; the firſt of which is never kept in the ſhops, or employed in practice; the other may be procured from the turner; and it is indifferent at what ſeaſon it has been cut down, being at all times ſufficiently fit for the only uſe to which it was applied, the yielding an empyreumatic oil by diſtillation in a ſtrong fire.

It may be doubted, whether barks are not generally more replete with medicinal matter in the ſummer and ſpring than in winter. The barks of many trees are in ſummer ſo much loaded with reſin and gum, as to burſt ſpontaneouſly, and diſcharge the redundant quantity. It is ſaid that the bark of the oak anſwers beſt for the tanners at the time of the riſing of the ſap in ſpring; and as its uſe in tanning depends on the ſame aſtringent quality for which it is uſed in medicine, it ſhould ſeem to be fitteſt for medicinal purpoſes alſo in the ſpring. It may be obſerved likewiſe, that it is in this laſt ſeaſon that barks in general are moſt conveniently peeled off.

Animals and Minerals.

Animals and minerals are to be choſen in their moſt perfect ſtate, unleſs they be ordered otherwiſe.

Whatever virtues theſe bodies may have, they are ſuppoſed to be beſt when they have attained to their common full growth. As there are no diſtinctions of maturity or immaturity in the mineral kingdom, the only rule for directing our choice here muſt be the purity of the ſubjects from any mixture of other bodies: none of them are ever to be uſed in an impure ſtate.

A ſhort View of DIFFERENT ARRANGEMENTS *of the* MATERIA MEDICA.

IN the beginning of this part, in which the different articles of the materia medica are conſidered, we have aſſigned reaſons for giving the preference to the alphabetical mode of arrangement: but as other modes of arrangement alſo, though liable to greater objections, are not without ſome peculiar advantages, it may not be improper to ſubjoin a general view of ſome of thoſe plans of arrangement, which have either been followed by the moſt eminent writers on the materia medica, at different periods, or which ſeem to us to be of conſiderable utility in practice; not only as conjoining together articles which have nearly the ſame operative effects, ſuch as emetics, cathartics, or the like; but as ſubdividing theſe claſſes into ſuch inferior aſſociations as may lead the rational practitioner to the ſelection of that particular article which is beſt accommodated to the diſeaſe, or to the circumſtances of his patient.

The Arrangement of DIOSCORIDES, *as tranſlated into Latin from the original Greek, by* JANUS ANTONIUS SARACENUS.

1. De aromatibus, oleis, unguentis, arboribus et naſcentibus ex eis liquoribus lachrymis ac fructibus.
2. De animalibus, cerealibus, oleribus et acrimonia præditis herbis.
3. De radicibus, ſuccis, herbis et ſeminibus, tum naturæ noſtræ familiaribus, tum etiam medicamentoſis.
4. De iis quæ reſtant herbis atque radicibus.
5. De vinis et iis quæ metallica dicuntur.

The Arrangement of STEPHANUS FRANCISCUS GEOFFROY, *in his* Tractatus de Materia Medica.

1. De foſſilibus.
2. De vegetabilibus exoticis.
3. De vegetabilibus indigenis.
4. De inſectis.
5. De piſcibus.
6. De amphibiis.
7. De avibus.
8. De quadrupedibus.
9. De homine.

The

The Arrangement of JOHN FREDERICK CARTHEUSER, *in his* Fundamenta Materiæ Medicæ.

1. De insipidis terreis et terro gelatinosis.
2. De insipidis, et subdulcibus mucilagineis et gelatinosis.
3. De dulcibus, subdulcibus, leniter amaricantibus austeriusculis, atque balsamicis unginoso-oleosis et pinguibus.
4. De acidis et acidulo-dúlcibus.
5. De salinis alcalicis, tam fixis quam volatilibus urinosis.
6. De salinis explicitis mediæ naturæ.
7. De austeris stypticis.
8. De dulcibus.
9. De acribus alterantibus.
10. De amaris et amaricantibus.
11. De acribus et amaris purgantibus, tam emeticis quam catharticis.
12. De vaporosis inebriantibus et narcoticis.
13. De balsamicis et aromaticis.
14. De amaricantibus, austeriusculis, blandis balsamicis, acriusculis, subdulcibus, terreo-aut mucilagineo-subadstringentibus, aliisque sapore mixto donatis.
15. De siccis sulphureis, mercurialibus, sulphureo-mercurialibus, sulphureo-regulinis, et metallicis, semimetallicis ac terreis martialibus.
16. De aqua simplici, aqua marina, et aquis medicatis mineralibus.

The Arrangement of DR MURRAY, *from his* Apparatus Medicaminum tam Simplicium quam Præparatorum et Compositorum, Vol. I, II, III, & IV.

1. Coniferæ.
2. Amentaceæ.
3. Compositæ.
4. Aggregatæ.
5. Conglomeratæ.
6. Umbellatæ.
7. Hederaceæ.
8. Sarmentaceæ,
9. Stellatæ.
10. Cymosæ.
11. Cucurbitaceæ.
12. Solanaceæ.
13. Campanaceæ.
14. Contortæ.
15. Rotaceæ.
16. Sepiariæ.
17. Bicornes.
18. Asperifoliæ.
19. Verticillatæ.
20. Personatæ.
21. Rhœades.
22. Putaminéæ.
23. Siliquosæ.
24. Papilonaceæ.
25. Lomentaceæ.
26. Multifiliquæ.
27. Senticosæ.
28. Pomaceæ.
29. Hesperideæ.
30. Succulentæ.
31. Columniferæ.
32. Gruinales.
33. Caryophylleæ.
34. Calycanthemæ.
35. Ascyroideæ.
36. Coadunatæ.
37. Dumosæ.
38. Trihilatæ.
39. Tricoccæ.
40. Oleraceæ.
41. Scabridæ.
42. Vepreculæ.

The Arrangement of DR CULLEN, *from his* Materia Medica.

MATERIÆ MEDICÆ TABULA GENERALIS,

In qua Medicamenta ad Capita quædam secundum indicationes morborum curatorias quibus respondent, referuntur.

MATERIA MEDICA constat ex

- NUTRIMENTIS quæ sunt.
  - *Cibi.*
  - *Potus.*
  - et quæ cum his assumuntur *Condimenta.*
- MEDICAMENTIS quæ agunt in
  - Solida.
    - Simplicia.
      - *Astringentia.*
      - *Tonica.*
      - *Emollientia.*
      - *Erodentia.*
    - Viva.
      - *Stimulantia.*
      - *Sedantia.*
        - *Narcotica.*
        - *Refrigerantia.*
      - *Antispasmodica.*
  - Fluida.
    - Immutantia.
      - Fluiditatem.
        - *Attenuantia.*
        - *Inspissantia.*
      - Misturam.
        - Acrimoniam corrigentia.
          - In genere
            - *Demulcentia.*
          - In specie
            - *Antacida.*
            - *Antalkalina.*
            - *Antiseptica.*
    - Evacuantia.
      - *Errhina.*
      - *Sialagoga.*
      - *Expectorantia.*
      - *Emetica.*
      - *Cathartica.*
      - *Diuretica.*
      - *Diaphoretica.*
      - *Menagoga.*

The

The Arrangement of Dr Home, *from his* Methodus Materiæ Medicæ.

Clafs 1. Auxilia adjicentia.
2. ——— evacuantia.
3. ——— alterantia fluida.
4. ——— alterantia folida.
5. ——— permutantia motus folidorum et fluidorum.

Clafs 6. Auxilia afficientia fenfus.
7. ——— topica interna.
8. ——— expellentia vel deftruentia copora extranea.

The Arrangement of Dr Duncan, *from his* Heads of Lectures on the Materia Medica.

I. Emetica.
1. Irritantia,
2. Calefacientia.
3. Naufeofa.
4. Narcotica.

II. Cathartica.
1. Stimulantia.
2. Refrigerantia.
3. Reftringentia.
4. Emollientia.
5. Narcotica.

III. Diaphoretica.
1. Calefacientia.
2. Stimulantia.
3. Pungentia.
4. Antifpafmodica.
5. Diluentia.

IV. Epispastica.
1. Rubefacientia.
2. Veficantia.
3. Suppurantia.

V. Diuretica.
1. Stimulantia.
2. Refrigerantia.
3. Diluentia.
4. Narcotica.

VI. Expectorantia.
1. Stimulantia.
2. Naufeofa.
3. Antifpafmodica.
4. Irritantia.

VII. Errhina.
1. Sternutatoria.
2. Evacuantia.

VIII. Sialagoga.
1. Topica.
2. Interna.

IX. Emmenagoga.
1. Stimulantia.
2. Irritantia.
3. Tonica.
4. Antifpafmodica.

X. Anthelmintica.
1. Venenofa.
2. Lubricantia.
3. Tonica.
4. Cathartica.

XI. Lithontriptica.
1. Antacida.
2. Reftringentia.

XII. Antacida.
1. Eccoprotica.
2. Reftringentia.

XIII. Antalkalina.
1. Refrigerantia.
2. Antifeptica.

XIV. At-

XIV. Attenuantia.
1. Diluentia.
2. Solventia.

XV. Inspissantia.
1. Farinosa.
2. Mucilaginosa.

XVI. Antiseptica.
1. Refrigerantia.
2. Tonica.
3. Stimulantia.
4. Antispasmodica.

XVII. Adstringentia.
1. Styptica.
2. Corrigentia.
3. Tonica.

XVIII. Emollientia.
1. Humectantia.
2. Laxantia.
3. Lubricantia.

XIX. Corrosiva.
1. Erodentia.
2. Caustica.

XX. Demulcentia.
1. Lenientia.
2. Diluentia.

XXI. Stimulantia.
1. Topica.
2. Diffusibilia.
3. Calefacientia.
4. Cardiaca.
5. Tonica.
6. Carminativa.

XXII. Sedativa.
1. Soporifica.
2. Narcotica.
3. Refrigerantia.

XXIII. Antispasmodica.
1. Stimulantia.
2. Sedativa.
3. Tonica.

XXIV. Sanguinis Missiones.
1. Generales.
2. Topicæ.

PART

PART III.

Preparations and Compoſitions.

CHAP. I.

PREPARATIONES SIMPLICIORES.

THE MORE SIMPLE PREPARATIONS.

QUORANDUM IN AQUA NON SOLUBILIUM PRÆPARATIO. *Lond.*

The preparation of ſome Subſtances not ſoluble in water.

POUND theſe ſubſtances firſt in a mortar; then, pouring on a little water, levigate them upon a hard and poliſhed, but not calcareous, ſtone, that they may be made as fine as poſſible. Dry this powder upon blotting-paper laid on chalk, and ſet it in a warm, or at leaſt a dry, place, for ſome days.

In this manner are to be prepared,

Amber,
Antimony,
Calamine,
Chalk,
Coral,
Oyſter-ſhells, firſt cleanſed from their impurities,
Tutty.

Crabs claws, firſt broken into ſmall pieces, muſt be waſhed with boiling water before they be levigated.

Verdegris muſt be prepared in the ſame manner.

WHERE large quantities of the foregoing powders are to be prepared, it is cuſtomary, inſtead of the ſtone and muller, to employ hand-mills made for this purpoſe, conſiſting of two ſtones; the uppermoſt of which turns horizontally upon the lower, and has an aperture in the middle for the conveniency of ſupplying freſh matter, or of returning that which has already paſſed, till it be reduced to a proper degree of fineneſs.

For the levigation of hard bodies, particular care ſhould be taken, whatever kind of inſtruments be made uſe of, that they be of ſufficient hardneſs, otherwiſe they will be abraded by the powders. The hematites, a hard iron ore, is moſt conveniently levigated between two iron planes; for if the common levigating ſtones be made uſe of, the preparation, when finiſhed, will contain almoſt as much of foreign mat-

matter from the inſtrument as of the hematites.

It has been cuſtomary to moiſten ſeveral powders in levigation, with roſe, balm, and other diſtilled waters: theſe, nevertheleſs, have no advantage above common water, ſince in the ſubſequent exſiccation they muſt neceſſarily exhale, leaving the medicine poſſeſſed of no other virtue than what might be equally expected from it when prepared with the cheaper element.

Some few ſubſtances, indeed, are more advantageouſly levigated with ſpirit of wine than with water. Thus bezoar has the green colour uſually expected in this coſtly preparation, conſiderably improved thereby. A little ſpirit may be added to the other animal ſubſtances, if the weather be very hot, and large quantities of them are prepared at once, to prevent their running into putrefaction; an accident which, in thoſe circumſtances, ſometimes happens when they are levigated with water only. Crabs-eyes, which abound with animal gelatinous matter, are particularly liable to this inconvenience.

The caution given above for reducing antimony, calamine, and tutty, to the greateſt ſubtilty poſſible, demands particular attention. The tenderneſs of the parts to which the two laſt are uſually applied, requires them to be perfectly free from any admixture of groſs irritating particles. The firſt, when not thoroughly comminuted, might not only, by its ſharp needle-like ſpicula, wound the ſtomach, but likewiſe anſwers little valuable purpoſe as a medicine, proving either an uſeleſs load upon the viſcera, or at beſt paſſing off without any other ſenſible effect than an increaſe of the groſſer evacuations; whilſt, if reduced to a great degree of fineneſs, it turns out a medicine of conſiderable efficacy.

The moſt ſucceſsful method of obtaining theſe powders of the requiſite tenuity, is, to waſh off the finer parts by means of water, and continue levigating the remainder till the whole become fine enough to remain for ſome time ſuſpended in the fluid; a proceſs received in the Edinburgh pharmacopœia, and there directed in the preparation of the following article.

ANTIMONIUM PRÆPARATUM.

Edinburgh.

Prepared Antimony.

Let the antimony be firſt pounded in an iron mortar, and then levigated on a porphory with a little water. After this, put it into a large veſſel, and pour a quantity of water upon it. Let the veſſel be repeatedly ſhaken, that the finer part of the powder may be diffuſed through the water; the liquor is then to be poured off, and ſet by till the powder ſettles. The groſs part, which the water would not take up, is to be further levigated, and treated in the ſame manner.

By this method, which is that commonly practiſed in the preparation of colours for the painter, powders may be obtained of any required degree of tenuity; and without the leaſt mixture of the groſs parts, which are always found to remain in them after long continued levigation: all the coarſer matter ſettles at firſt, and the finer powder continues ſuſpended in the water, longer and longer, in proportion to the degree of its fineneſs. The ſame proceſs may likewiſe be advantageouſly applied to other hard pulverable bodies of the mineral kingdom, or artificial preparations of them; provided they be not ſoluble in, or ſpecifically lighter than water. The animal and abſorbent

ſorbent powders, crabs-claws, crabs-eyes, oyſter-ſhells, egg-ſhells, chalk, pearl, coral, and bezoar, are not well adapted to this treatment; nor indeed do they require it. Theſe ſubſtances are readily ſoluble in acid juices without much comminution: if no acid be contained in the firſt paſſages, they are apt to concrete, with the mucus matter uſually lodged there, into hard indiſſoluble maſſes; the greater degree of fineneſs they are reduced to, the more they are diſpoſed to form ſuch concretions, and enabled to obſtruct the orifices of the ſmall veſſels.

CALAMINARIS LAPIS PRÆPARATA.

Edin.

Prepared Calamine.

Calamine previouſly calcined for the uſe of thoſe who make braſs, is to be treated in the ſame manner as antimony.

CRETA PRÆPARATA.

Edin.

Prepared Chalk.

Chalk firſt triturated and then frequently waſhed with water, till it imparts to it neither taſte nor colour, is to be treated in the ſame manner as antimony.

As calamine is intended for external application, and often to parts very eaſily irritated, too much pains cannot be beſtowed in reducing it to a fine powder; and the frequent waſhing of the chalk may have the effect of freeing it from ſome foreign matters: But with regard to this ſubſtance, the after part of the proceſs, if not improper, is, in our opinion at leaſt, unneceſſary: and this obſervation may alſo be made with reſpect to the oculi, or more properly lapilli cancrorum, which the Edinburgh college direct to be treated in the ſame manner.

ADIPIS SUILLÆ, SEVIQUE OVILLI PRÆPARATIO.

Lond.

The preparation of hog's-lard and mutton-ſuet.

Cut them into pieces, and melt them over a ſlow fire; then ſeparate them from the membranes by ſtraining.

These articles had formerly a place alſo among the preparations of the Edinburgh college. But now they introduce them only into their liſt of the materia medica; as the apothecary will in general find it more for his intereſt to purchaſe them thus prepared, than to prepare them for himſelf: for the proceſs requires to be very cautiouſly conducted, to prevent the fat from burning or turning black.

AMMONIACI GUMMI PURIFICATIO.

The purification of gum ammoniacum.

Lond.

If gum ammoniac do not ſeem to be pure, boil it in water till it become ſoft; then ſqueeze it through a canvas bag, by means of a preſs. Let it remain at reſt till the reſinous part ſubſide; then evaporate the water; and towards the end of the evaporation reſtore the reſinous part, mixing it with the gummy.

In the ſame manner are purified aſſafœtida and ſuch like gum-reſins.

You may alſo purify any gum which melts eaſily, ſuch as Galbanum, by putting it in an ox-bladder, and holding it in boiling water till it be ſo ſoft that it can be ſeparated from its impurities by preſſing through a hempen cloth.

In the ſtraining of all the gums, care ſhould be taken that the heat be neither great, nor long continued; otherwiſe a conſiderable portion

tion of their more active volatile matter will be loſt; an inconvenience which cannot, by any care, be wholly avoided. Hence the purer tears, unſtrained, are in general to be preferred, for internal uſe, to the ſtrained gums.

As an additional reaſon for this preference, we may add, that ſome of the gum-reſins, purified in the common way, by ſolution in water, expreſſion, and evaporation, are not ſo eaſily ſoluble in aqueous menſtrua after, as before, ſuch depuration. On theſe accounts this proceſs is entirely omitted by the Edinburgh college; and in every caſe where a gummi-reſinous ſubſtance, before it be taken, is to be diſſolved in water, it may be as effectually freed from impurities at the time of ſolution as by this proceſs. And when it is to be employed in a ſolid ſtate, care ſhould be taken that the purer parts alone be ſelected.

CORNU CERVI USTIO.

The burning of hartſhorn.

Lond.

Burn pieces of hartſhorn till they become perfectly white; then reduce them to a very fine powder.

The pieces of horn generally employed in this operation are thoſe left after diſtillation.

In the burning of hartſhorn, a ſtrong fire and the free admiſſion of air are neceſſary. The potter's furnace was formerly directed for the ſake of convenience; but any common furnace or ſtove will do. If ſome lighted charcoal be ſpread on the bottom of the grate, and above this the pieces of the horns are laid, they will be burnt to whiteneſs, ſtill retaining their original form.

Burnt hartſhorn is not now conſidered as a pure earth, having been found to be a compound of calcareous earth and phoſphoric acid. It is the weakeſt of the animal abſorbents, or ſoluble in acids with moſt difficulty; but whether it be of equal or ſuperior uſe in diarrhœas to more powerful abſorbents, muſt be left to obſervation.

HERBARUM et FLORUM EXSICCATIO.

Lond.

The drying of herbs and flowers.

Let theſe, ſpread out lightly, be dried by a gentle heat.

Edin.

Herbs and flowers muſt be dried by gentle heat, from a ſtove or common fire. They muſt be taken in ſuch quantities at a time, that the proceſs will be ſpeedily finiſhed; for by this means their medical powers are beſt preſerved. The moſt certain teſt of this is the perfect preſervation of the natural colour: but the leaves of cicuta, and of other plants containing a volatile matter, muſt be immediately pounded, after being dried, and afterwards kept in a phial with a ground ſtopper.

The directions given by the London college are here leſs explicit, and perhaps leſs proper than thoſe of the Edinburgh college: for there can be no doubt of the propriety of drying theſe ſubſtances haſtily, by the aid of artificial heat, rather than by the heat of the ſun. In the application of artificial heat, the only caution requiſite is to avoid burning; and of this a ſufficient teſt is afforded by the preſervation of colour. And the direction given with regard to cicuta may perhaps with advantage be fol-

followed with moſt of the other flowers and herbs, afterwards to be exhibited in powder.

MELLIS DESPUMATIO.

Lond.

The purifying of honey.

Melt the honey by the heat of a water bath, and remove the ſcum.

The intention of this proceſs is to purify the honey from wax, or other droſſy matters that have been united with it by the violence of the preſs in its ſeparation from the comb, and from meal and ſuch like ſubſtances, which are ſometimes fraudulently mingled with it. When the honey is rendered liquid and thin by the heat, theſe lighter matters riſe freely to the ſurface.

This preparation is not ſo neceſſary for honey that is to be uſed as an article of diet as for that which is employed in the preparation of oxymels; hence the Edinburgh college, who have rejected all the oxymels, have omitted this proceſs.

MILLEPEDÆ PRÆPARATIO.

Lond.

The preparation of ſlaters.

Millepedæ præparatæ. Edin.

The millepedes are to be incloſed in a thin canvas cloth, and ſuſpended over hot ſpirit of wine, in a cloſe veſſel, till they be killed by the ſteam, and rendered friable.

This is a convenient way of rendering millepedes pulverable, without endangering any loſs of ſuch virtues as they may poſſeſs.

The directions given by both colleges are here preciſely the ſame, and delivered in almoſt the ſame words.

PULPARUM EXTRACTIO.

Lond. Edin.

The extraction of pulps.

Unripe pulpy fruits, and ripe ones if they be dry, are to be boiled in a ſmall quantity of water until they become ſoft: then preſs out the pulp through a ſtrong hair ſieve, and afterwards boil it down to due conſiſtence (as to that of honey) in an earthen veſſel, over a gentle fire; taking care to keep the matter continually ſtirring, to prevent its burning.

The pulp of caſſia fiſtularis is in like manner to be boiled out from the bruiſed pod, and reduced afterwards to a proper conſiſtence, by evaporating the water.

The pulps of fruits that are both ripe and freſh, are to be preſſed out through the ſieve, without any previous boiling.

In the extraction of pulps, the directions of both colleges ſo nearly agree, that it is unneceſſary to give a ſeparate tranſlation of each. We may only obſerve, that the London college, in place of ſoftening the fruits by boiling in a ſmall quantity of water, direct them to be put in a moiſt place. But this direction, though with ſome particular ſubſtances it may be preferable, is, we think, very generally the leaſt proper.

SCILLÆ EXSICCATIO.

Lond. Edin.

The drying of ſquills.

Let the ſquill, cleared from its outer ſkin, be cut tranſverſely into thin ſlices, and dried with a very gentle heat. When properly managed, the ſquill is friable, and retains its bitterneſs and acrimony.

By this method the squill dries much sooner than when only its several coats are separated, as has been usually directed; the internal part being here laid bare, which, in each of the entire coats, is covered with a thin skin, which impedes the exhalation of the moisture. The root loses in this process four fifths of its original weight; the parts which exhale appear to be merely watery: hence six grains of the dry root are equivalent to half a dram of it when fresh; a circumstance to be particularly regarded in the exhibition of this medicine. In the preceding editions of our pharmacopœias, a particular caution was given, not to use an iron knife for cutting squills, but one of wood, ivory, or other bone: the foundation of this caution is said to be, not so much that the squill would receive any ill qualities from the iron; as, that its acrid juice, adhering to the knife, might render a wound received by it extremely painful, or even dangerous. But from this, little, we imagine, is to be apprehended, and the direction appears unnecessary. Dried squills furnish us with a medicine, sometimes advantageously employed as an emetic, often as an expectorant, but still more frequently as a powerful diuretic.

SPONGIÆ USTIO.

Lond.

The burning of sponge.

Beat the sponge, after cutting it in pieces; and, when separated from its gritty matter, burn it in a close iron vessel until it becomes black and friable; afterwards rub it to a very fine powder.

Edinb.

Put the sponge, cut into small pieces, and well freed from adhering earthy matters, into a close earthen vessel. Place it on the fire, and let it be stirred frequently till it become black and friable; then reduce it to a powder in a glass or marble mortar.

This medicine has been in use for a considerable time, and employed against scrophulous disorders and cutaneous foulnesses, in doses of a scruple and upwards. Its virtues seem to depend upon a volatile salt, just formed and combined with its own oil. If the sponge be distilled with a strong heat, it yields a large proportion of that salt in its proper form. The salt is in this preparation so far extricated, that if the burnt sponge be ground in a brass mortar, it corrodes the metal, so as to contract a disagreeable taint, and sometimes an emetic quality.

Bees, earthworms, and other animal substances, have by some been prepared in the same manner, and recommended in different diseases: but as these substances fall much short of sponge in the quantity of volatile salt producible from them by fire, they are probably inferior also in medicinal efficacy. Of all the animal matters that have been tried, raw silk is the only one which exceeds, or equals sponge, in the produce of salt.

A good deal of address is requisite for managing this process in perfection. The sponge should be cut small, and beaten for some time in a mortar, that all the stony matters may be got out, which compared with the weight of the sponge when prepared, will sometimes amount to a considerable quantity. The burning should be discontinued, as soon as the matter is become thoroughly black. If the quantity put into the vessel at once be large, the outside will be sufficiently burnt before the inside be affected; and the volatile salt of the former will in

in part escape, before that in the latter is begun to be formed. The best method of avoiding this inconvenience seems to be, to keep the sponge continually stirring, in such a machine as is used for the roasting of coffee.

And from this circumstance, the iron vessels directed by the London college is preferable to the earthen one directed by that of Edinburgh. But the pounding in a glass or marble mortar directed by the latter, is a necessary caution which the former college have omitted.

STYRACIS PURIFICATIO.

Lond.

The purification of storax.

Dissolve the storax in rectified spirit of wine, and strain the solution: afterwards reduce it to a proper thickness with a gentle heat.

Storax was formerly directed to be purified by means of water; hence it was styled *styracis colatio*: but the method now adopted is much preferable, for the active parts of the storax totally dissolve in spirit of wine, the impurities alone being left. And as these active parts do not rise in distillation, the spirit may be again recovered in reducing it to a proper thickness.

FERRI LIMATURA PURIFICATA.

Edinb.

Purified filings of iron.

Apply a magnet to a sieve placed upon filings of iron, so that the filings may be attracted upwards through the sieve.

FERRI RUBIGO, vulgo FERRI LIMATURA PREPARATA.

Rust of iron, commonly call d *shavings of iron, prepared.*

Set purified filings of iron in a moist place, that they may turn to rust, which is to be ground into an impalpable powder.

The cleansing of iron filings by means of a magnet is very tedious, and does not answer so well as might be expected; for if they are rusty, they will not be attracted by it, or not sufficiently: nor will they by this means be entirely freed from brass, copper, or other metallic substances which may adhere to them. It appears from the experiments of Henckel, that if iron be mixed by fusion with even its own weight of any of the other metals, regulus of antimony alone excepted, the compound will be vigorously attracted by the loadstone. The rust of iron is to be procured at a moderate rate from the dealers in iron, free from any impurities, except such as may be washed off by water.

The rust of iron is by some preferred as a medicine to the calces, or croci, made by a strong fire. Hoffman relates that he has frequently given it with remarkable success in obstinate chlorotic cases accompanied with excessive headachs and other violent symptoms; and that he usually joined with it pimpinella, arum root, and salt of tartar, with a little cinnamon and sugar. The dose is from four or five grains to twenty or thirty; some have gone as far as a dram: but all the preparations of this metal answer best in small doses, which should rather be often repeated than enlarged.

FERRI SQUAMÆ PURIFICATÆ.

Edinb.

Scales of iron purified.

Let the scales of iron, which may be had at the anvils of the workmen, be purified by the magnet; for the magnet only attracts the

ſmaller and purer parts, leaving the more thick and impure behind.

This is, perhaps, of all the forms the moſt eligible for obtaining the pure metal in ſuch a divided ſtate as to render it eaſily acted upon by different menſtrua; and the mode of purification here propoſed is not only very effectual, but alſo very eaſily put into practice.

MUCAGINUM EXTRACTIO.

Gen.

The extraction of mucilage.

Boil the gums or mucilaginous ſeeds in a ſufficient quantity of water, till it becomes viſcid, nearly reſembling the white of an egg; and then ſtrain it by preſſure through a linen cloth.

By this means vegetable mucilage may be eaſily obtained from many different ſubſtances in its pure ſtate. And although this proceſs is not directed in our pharmacopœias, yet we think that it might with advantage be adopted.

CHAP. II.

CONSERVÆ.

CONSERVES.

Conserves are compoſitions of recent vegetable matters and ſugar, beaten together into an uniform maſs.

This management is introduced for preſerving certain ſimples, undried, in an agreeable form, with as little alteration as poſſible in their native virtues; and to ſome ſubjects it is very advantageouſly applied. Vegetables, whoſe virtues are loſt or deſtroyed in drying, may in this form be kept uninjured for a length of time: for, by carefully ſecuring the mouth of the containing veſſel, the alteration, as well as diſſipation, of their active principles, is generally prevented; and the ſugar preſerves them from the corruption which juicy vegetables would otherwiſe undergo.

There are, however, ſundry vegetables whoſe virtues are impaired by this treatment. Mucilaginous ſubſtances, by long lying with ſugar, become leſs glutinous; and aſtringents ſenſibly become ſofter upon the palate. Many of the fragrant flowers are of ſo tender and delicate a texture, as almoſt entirely to loſe their peculiar qualities on being beaten or bruiſed.

In general, it is obvious, that in this form, on account of the large admixture of ſugar, only ſubſtances of conſiderable activity can be taken to advantage as medicines. And, indeed, conſerves are at preſent conſidered chiefly as auxiliaries to medicines of greater efficacy, or as intermediums for joining them together. They are very convenient for

for reducing into boluſes or pills the more ponderous powders, as mercurius dulcis, the calces of iron, and other mineral preparations; which, with liquid or leſs conſiſtent matters, as ſyrups, will not cohere.

The ſhops were formerly encumbered with many conſerves altogether inſignificant; the few now retained have in general either an agreeable flavour to recommend them, or are capable of anſwering ſome uſeful purpoſes as medicines. Their common doſe is the bulk of a nutmeg, or as much as can be taken up at once or twice upon the point of a knife. There is in general no great danger of exceeding in this particular.

CONSERVÆ *Lond.*

LUJULÆ,

Of wood ſorrel;

ABSINTHII MARITIMI,

Of ſea wormwood;

ROSÆ RUBRÆ,

Of the red roſe;

CORTICIS EXTERIORIS AURANTII HISPALENSIS;

Of the outer rind of the Seville orange.

Pluck the leaves from the ſtalks, the unblown petals from the cups, taking off the heels. Take off the outer rind of the oranges by a grater; then beat each of them with a wooden peſtle in a marble mortar, firſt by themſelves, afterwards with three times their weight of double refined ſugar, until they be mixed.

CONSERVÆ *Edinb.*

MENTHÆ SATIVÆ FOLIORUM RECENTIUM,

Of the freſh leaves of mint;

ROSARUM RUBRARUM NONDUM EXPLICATARUM;

Of red roſes not blown.

AURANTIORUM HISPALENSIUM CORTICIS EXTERIORIS RECENTIS RADULA ABRASI,

Of the outer rind of Seville oranges raſped off by a grater.

Theſe are directed to be prepared with triple their weight of ſugar in the ſame manner as the conſerves of the London college. The ſugar ſhould be pounded by itſelf, and paſſed through a ſieve before it be mixed with the vegetable maſs, for without this it cannot be properly incorporated. Roſe buds, and ſome other vegetables, are uſually prepared for mixing with ſugar by a ſmall wooden mill contrived for that purpoſe.

In the ſame manner conſerves may be prepared from many other vegetables. But beſides the conſerves for which general directions are given, there are others, for which, either on account of the particular mode of preparation, or of the proportion, our pharmacopœias have thought it neceſſary to give particular directions. But before taking notice of theſe, it is neceſſary to mention the medical properties of the conſerves above enumerated.

CONSERVA foliorum LUJULÆ.

Lond.

Conſerve of the leaves of wood-ſorrel.

This is a very elegant and grateful conſerve; in taſte it is lightly acidulous, with a peculiar flavour, which ſome compare to that of green-tea. It is taken occaſionally for quenching thirſt, and cooling the mouth and fauces, in diſtempers where the heat of the body is much increaſed.

CONSERVA ſummitatum ABSINTHII maritimi, *Lond.*

Conserve of the tops of sea wormwood.

THE conserve of wormwood has been celebrated in dropsies: Matthiolus relates, that several persons were cured by it of that distemper without the assistance of any other medicine. Where the disorder indeed proceeds from a simple laxity or flaccidity of the solids, the continued use of this medicine may be of some service; as it appears to be a not inelegant mild corroborant. It is directed to be given in the dose of half an ounce about three hours before meals.

CONSERVA florum ROSARUM rubrarum immaturarum,
Lond. Edinb.
Conserve of the buds of red roses.

THIS is a very agreeable and useful conserve. A dram or two dissolved in warm milk, are frequently given as a light restringent, in weakness of the stomach, and likewise in coughs and phthisical complaints. In the German ephemerides, examples are related of very dangerous phthisis cured by the continued use of this medicine: In one of these cases, twenty pounds of the conserve were taken in the space of a month; and in another, upwards of thirty. Riverius mentions several other instances of this kind. There is, however, much room for fallacy in such observations; as phthisis has not at all times been accurately distinguished from obstinate catarrhs, and some other affections: the antiseptic property of the sugar may perhaps have some share in the effect.

CONSERVA flavedinis CORTICUM AURANTIORUM Hispalensium,
Lond. Edinb.
Conserve of the yellow rind of Seville orange-peel.

THIS conserve is a very elegant one, containing all the virtues of the peel in a form sufficiently agreeable, both with regard to the dose and the conveniency of taking. It is a pleasant warm stomachic; and with this intention is frequently made use of.

CONSERVA foliorum MENTHÆ vulgaris.
Edinb.
Conserve of the leaves of spearmint.

THE conserve of mint retains the taste and virtues of the herb. It is given in weakness of the stomach and retchings to vomit; and not unfrequently does service in some cases of this kind, where the warmer and more active preparations of mint would be less proper.

CONSERVA ARI.
Conserve of arum.

Take of
The fresh root of arum bruised, half a pound;
Double refined sugar, a pound and a half;
Beat them together in a mortar.

THE root of arum, in its recent state, is a substance of great activity; but this activity is almost entirely lost on drying. Hence the compound powder, which had formerly a place in our pharmacopœias, is now rejected. And as neither water nor spirit extract its activity, this conserve is perhaps the best form in which it can be preserved in our shops. It may be given to adults in doses of a dram.

CONSER-

CONSERVA CYNOSBATI.

Lond.

Conserve of the hip.

Take of
Pulp of ripe hips one pound;
Double-refined sugar, powdered, twenty ounces.
Mix them into a conserve.

The conserve of hips is of some esteem as a soft cooling restringent; three or four drams or more are given at a time, in bilious fluxes, sharpness of urine, and hot indispositions of the stomach: A good deal of care is requisite on the part of the apothecary in making this conserve: the pulp is apt to carry with it some of the prickly fibres, with which the inside of the fruit is lined; if these be retained in the conserve, they will irritate the stomach, so as to occasion vomiting.

CONSERVA PRUNI SYLVESTRIS.

Lond Edinb.

Conserve of the sloe.

Put the sloes in water upon the fire that they may soften, taking care that they be not broken; then, the sloes being taken out of the water, press out the pulp, and mix it with three times its weight of double refined sugar into a conserve.

This preparation is a gentle astringent, and may be given as such in the dose of two or three drams. The degree of its astringency will vary according to the maturity of the sloes, and the length of time for which the conserve has been kept.

CONSERVA SCILLÆ.

Conserve of squill.

Take of
Fresh squills, one ounce;
Double-refined sugar five ounces.
Beat them together, in a mortar, into a conserve.

This conserve is directed to be prepared in a small quantity, to guard against its variation in strength. It may be given, to adults, from half a dram to two scruples, especially when fresh.

But the conserve of squills is a more uncertain and less agreeable mode of exhibiting this article, than the powder of the dried root, particularly when made into pills, or given in the form of bolus with any other conserve

CONSERVA FOLIORUM CEREFOLII.

Suec.

Conserve of chervil.

Take of
Fresh leaves of chervil,
Double-refined sugar, each equal parts.
Beat them together into a conserve.

Chervil has by some been extolled as an useful diuretic; and this is perhaps one of the most pleasant forms under which it can be exhibited.

CONSERVA MILLEPEDARUM.

Brun.

Conserve of millepedes.

Take of
Live slaters, one pound;
Double-refined sugar, two pounds and an half.
Beat them together into a conserve.

If the millepedes possess those virtues which some have alleged, this is perhaps one of the best forms under which they can be exhibited. And by children, to whom they are

are frequently prescribed, it may be easily taken, when other forms cannot be introduced.

CONSERVA ROSARUM VITRIOLATA. *Brun.*
Vitriolated conserve of roses.

To each pound of the conserve of roses add two drams of the diluted vitriolic acid.

This may be in some cases an useful means of increasing somewhat the astringency of the conserve of roses; But for these purposes for which the vitriolic acid is in general employed, the quantity that can thus be introduced is too inconsiderable to be of much service.

CHAP. III.

SUCCI.

JUICES.

JUICES are obtained from the succulent parts of plants, by including them, after being properly cut, bruised, &c. in a hair bag, and pressing them, betwixt wooden cheeks, in the common screw-press, as long as any liquor drops from them.

The harder fruits require to be previously well beaten or ground; but herbs are to be only moderately bruised, for if these are over bruised, a large quantity of the herbaceous matter will be forced out along with the juice. Hempen or woollen bags are apt to communicate a disagreeable flavour; the threads of these likewise swell in proportion as they imbibe moisture, so as in great measure to prevent the free percolation of the juice.

The fluids thus extracted from succulent fruits, both of the acid and sweet kind, from most of the acrid herbs, as scurvy-grass and water-cresses, from the acid herbs, as sorrel and wood-sorrel, from the aperient lactescent plants, as dandelion and hawkweed, and from sundry other vegetables, contain great part of the peculiar taste and virtues of the respective subjects. The juices, on the other hand, extracted from most of the aromatic herbs, as those of mint and the fragrant Turkey balm, commonly called *balm of Gilead*, have scarcely any thing of the flavour of the plants, and seem to differ little from decoctions of them made in water boiled till the volatile odorous parts have been dissipated. Many of the odoriferous flowers, as the lily, violet, hyacinth, not only impart nothing of their fragrance to their juice, but have it totally destroyed by the previous bruising. From want of sufficient attention to these particulars, practitioners have been frequently deceived in the effects of preparations of this class: juice of mint has been often prescribed as a stomachic, tho' it wants those qualities

ties by which mint itſelf and its other preparations operate.

The juices, thus forcibly preſſed out from plants, differ from thoſe which flow ſpontaneouſly, or from inciſions; theſe laſt conſiſting chiefly of ſuch fluids as are not diffuſed through the whole ſubſtance of the vegetable ſubject, but elaborated in diſtinct veſſels, or ſecreted into particular receptacles. From poppy heads, ſlightly wounded, there iſſues a thick milky liquor, which dries by a moderate warmth into opium; whilſt the juice obtained from them by preſſure is of a dark-green colour, and far weaker virtue.

Juices newly expreſſed are generally thick, viſcid, and very impure: By colature, a quantity of groſs matter is ſeparated, the juice becomes thinner, limpid, and better fitted for medicinal purpoſes, tho' as yet not entirely pure: on ſtanding, it becomes again turbid, and apt to run into a fermentative or putrefactive ſtate. Clarification with whites of eggs renders the juices more perfectly fine; but there are few that will bear this treatment without a manifeſt injury to their flavour, taſte, and virtue.

The moſt effectual method of purifying and preſerving theſe liquors, is to let the ſtrained juices ſtand in a cool place till they have depoſited their groſſer feces, and then gently paſs them ſeveral times thro' a fine ſtrainer till perfectly clear; when about one-fortieth part their weight of good ſpirit of wine may be added, and the whole ſuffered to ſtand as before: a freſh ſediment will now be depoſited, from which the liquor is be to poured off, ſtrained again, and put into ſmall bottles which have been waſhed with ſpirit and dried. A little oil is to be poured on the ſurface, ſo as very nearly to fill the bottles, and the mouths cloſed with leather, paper, or ſtopped with ſtraw, as the flaſks in which florence wine is brought to us: this ſerves to keep out duſt, and ſuffers the air, which in proceſs of time ariſes from all vegetable liquors, to eſcape; which air would otherwiſe endanger the burſting of the glaſſes; or, being imbibed afreſh, render their contents vapid and foul. The bottles are to be kept on the bottom of a good cellar or vault, placed up to the necks in ſand. By this method ſome juices may be preſerved for a year or two; and others for a much longer time.

It has already been obſerved, that there are great differences in juices, in regard to their being accompanied in the expreſſion with the virtues of the ſubjects. There are equal differences in regard to their preſerving thoſe virtues, and this independently of the volatility of the active matter, or its diſpoſition to exhale. Even the volatile virtue of ſcurvy-graſs may by the above method be preſerved almoſt entire in its juice for a conſiderable time; while the active parts of the juice of the wild cucumber quickly ſeparate and ſettle to the bottom, leaving the fluid part inert. Juices of arum root, iris root, bryony root, and ſundry other vegetables, throw off in like manner their medicinal parts to the bottom.

SUCCUS COCHLEARIÆ COMPOSITUS.

Lond.

Compound juice of ſcurvy-graſs.

Take of

Juice of garden ſcurvy-graſs two pints;
Brook lime and
Water creſſes, of each one pint;
Seville oranges twenty ounces by meaſure.

Mix

Mix them; and, after the feces have subsided, pour off the liquor, or strain it.

SUCCI AD SCORBUTICOS.
Edinb.

Take of
- Juice of garden scurvy-grass,
- Water-cresses, both expressed from the fresh herbs;
- Seville oranges, of each two pounds;
- Spirituous nutmeg-water; half a pound.

Mix them, and let them stand till the feces have subsided, then pour out the clear liquor.

By this formula the Edinburgh college have rejected the brook-lime and the sugar of their former editions. The sugar was certainly a very improper addition; for though it may preserve dry vegetable matters, yet when added to juices largely impregnated with watery and mucilaginous matter, it would no doubt furnish that very principle most favourable to the production of the vinous fermentation. To the compound horse-radish water they have substituted the spirituous water of nutmegs: Besides that, this water has the same property of preserving the juices from fermentation; it is also much more agreeable to the palate, and will make the juices sit easier on the stomach.

The London college have retained nearly their former formula, giving it only a more proper name.

Both these compositions are of considerable use for the purposes expressed in the title: the orange juice is an excellent assistant to the scurvy-grass and other acrid anti-scorbutics; which, when thus mixed, have been found from experience to produce much better effects than when employed by themselves. These juices may be taken from an ounce or two to a quarter of a pint, two or three times a day: they generally increase the urinary secretion, and sometimes introduce a laxative habit. Preserved with the cautions above-mentioned, they will keep good for a considerable time; though, whatever care be taken, they are found to answer better when fresh; and from the difficulty of preserving them so, they have of late been very much laid aside, especially since we have been provided with more convenient and useful remedies.

Inspissated Juices.

When vegetable juices or watery or spirituous decoctions or infusions, are exposed to a continued heat; the fluid gradually evaporating, carries off with it such volatile matters as it was impregnated with, and leaves the more fixed united together into one mass. The mass which remains from the evaporation of the expressed juice of a plant is called *inspissated juice;* from watery decoctions or infusions, an *extract;* from spirituous tinctures, a *resin*, or *essential extract*. The term *extract* is frequently used also as a general appellation of all the three kinds. Inspissated juices and watery decoctions, particularly the former, when evaporated no further than to the consistence of oil or honey, are called *rob* or *sapa;* and spirituous tinctures, reduced to a like consistence, are called *balsam*.

What relates to the expression of juices, has already been delivered with the most effectual means of preserving them in their liquid state, and a general account of what substances do or do not give out their virtues with their juices. In the inspissation

ſpiſſation of juices there is further to be conſidered the volatility or fixity of their medicinal parts: if a plant loſes its virtue, or part of its virtue, in being dried, it is obvious that the juice muſt loſe as much in being inſpiſſated to dryneſs; how gentle ſoever the heat be with which the inſpiſſation is performed. It is likewiſe to be obſerved, that the medicinal parts of ſome juices are kept in a ſtate of perfect ſolution by the watery fluid ſo as to be completely retained by it after the liquor has been made fine by ſettling, ſtraining, or other means; while the medicinal parts of others, not diſſoluble by watery menſtrua, are only diffuſed thro' the liquor in the ſame manner as the feculencies are, and ſeparate along with theſe on ſtanding.

SUCCUS BACCÆ SAMBUCI SPISSATUS.

Lond.

Inſpiſſated juice of the elder-berry.

Take of

Expreſſed and depurated juice of elder-berries two pints.

Inſpiſſate it in a water bath, ſaturated with ſea-ſalt.

SUCCUS SPISSATUS BACCARUM SAMBUCI, vulgo ROB SAMBUCI.

Edinb.

Inſpiſſated juice, commonly called *rob, of elder-berries.*

Take of

Juice of ripe elder-berries, five pounds;

Pureſt ſugar, one pound.

Evaporate with a gentle heat to the conſiſtence of pretty thick honey.

This preparation, made with or without ſugar, keeps well, and proves a medicine of conſiderable importance as an aperient, generally promoting the natural excretions by ſtool, urine, or ſweat. The doſe is from a dram or two to an ounce or more. A ſpoonful diluted with water, is uſually taken in common colds at bed time.

SUCCUS SPISSATUS ACONITI.

Edinb.

Inſpiſſated juice of wolfsbane.

Bruiſe the freſh leaves of aconitum; and including them in a hempen bag, ſtrongly compreſs them in a preſs, ſo that they may give out their juice: let the juice be forthwith exhaled, in open veſſels expoſed to the vapour of boiling water, to the conſiſtence of pretty thick honey: An empyreuma is to be avoided by conſtantly ſtirring towards the end of the proceſs.

After the matter has become cold, let it be put up in glazed earthen veſſels, and moiſtened with rectified ſpirit of wine.

In the ſame manner are prepared inſpiſſated juices of

Belladona, or deadly nightſhade, and

Hyoſciamus, or henbane.

In theſe inſpiſſated juices, the active parts of the plant are obtained in a concentrated ſtate, and in a condition which admits of preparation for a conſiderable length of time. They furniſh therefore a convenient form for exhibiting theſe articles which, in the practice of medicine, are perhaps more frequently uſed in the ſtate of inſpiſſated juice than any other. This is particularly the caſe with the hyoſciamus, which may often be advantageouſly employed when opium is indicated, but diſagrees with the patient. But the aconite and belladona may in

in general, with greater advantage, be exhibited under the form of powder made from the dried leaves.

We have already, in the history of the materia medica, expressed our surprise, that the London college have given no place to these articles. And we cannot help thinking, that their pharmacopœias would be enriched by introducing not only the articles themselves, but likewise these preparations, especially as they are not unfrequently prescribed by British practitioners.

SUCCUS SPISSATUS CICUTÆ.
Edinb.
Inspissated juice of hemlock.

Having expressed the juice of the leaves and stalks of hemlock when flowering, in the same manner as directed for that of the aconitum, evaporate it to the consistence of pretty thin honey; when it is cooled, add of the powder of the dried leaves of the plant as much as to make it into a mass fit for forming pills. Care, however, is to be taken, that the evaporation proceed only to such length, that as much of the powder can be mixed with the inspissated juice as shall make up about a fifth part of the whole mass.

A preparation similar to this was published at Vienna by Dr Stoerk, who recommends it as an efficacious resolvent in many obstinate disorders, where the common remedies avail nothing. He observes, that small doses should always be begun with, as two grains, made into a pill twice a day; and that by gradually increasing the dose, it may be given to two, three, or even four drams a day, and continued in such quantities for several weeks: that it may be used with safety in infancy, old age, and pregnancy: that it neither accelerates nor disturbs the circulation; neither heats, nor cools, nor affects the animal functions: that it increases the secretions, and renders the mouth moist; seldom purges; very rarely vomits; sometimes augments perspiration; often produces a copious discharge of viscid urine; but in many patients does not increase any of the sensible evacuations; that it removes obstructions and their consequences; relieves rheumatic pains, tho' of long continuance; discusses scirrhous tumours, both internal and external; and cures dropsies and consumptions proceeding from scirrhosities: that it often dissolves cataracts, or stops their progress, and has sometimes removed the gutta serena: that inveterate cutaneous eruptions, scald heads, malignant ulcers, cancers, the malignant fluor albus and gonorrhœa of long standing, obstinate remains of the venereal disease, and caries of the bones, generally yield to it: that for the most part it is necessary to continue this medicine for a considerable time before the cure be effected, or much benefit perceived from it: that in some cases it failed of giving any relief; that he met with some persons who could not bear its effects; and that consequently there must be some latent difference in the habit, the diagnostic signs of which are at present unknown: that though it is by no means infallible any more than other medicines, yet the great number of deplorable cases that have been happily cured by it, is sufficient to recommend it to further trials. The efficacy of this medicine is confirmed by many eminent practitioners abroad; though the trials hitherto made of it in this country have not been attended with much success. Somewhat, perhaps, may depend upon the time of the plant's being gathered, and the man-

manner of the preparation of the extract. Dr Stoerk himself takes notice of some mistakes committed in this respect: some have left the herb in a heap for several days, whence part of it withered, part rotted, and the juice became thick and mucilaginous: others have taken a very large quantity of the juice, and boiled it down in copper vessels with a great heat; by which means a strong fetor was diffused to a considerable distance, and the most efficacious parts dissipated: others, with officious care, have clarified the juice, and thus obtained a black tenacious extract, retaining but a small degree of the specific smell of the plant. The extract, duly prepared, according to the above prescription, is of a greenish brown colour, and a very disagreeable smell, like that of mice. But though there be reason to believe that much of the extract used here had been ill prepared, we can by no means admit that its general inefficacy was owing to this cause; for though there are not many instances of its discovering any valuable medicinal powers, there are several of its having activity enough, even in small doses, to produce alarming symptoms.

Modern practice, however, seems to hold a middle place; being neither influenced by the extravagant encomiums of Dr Stoerk, nor frightened by the wary suspicions of Dr Lewis. The inspissated juice of the hemlock is accordingly given with freedom in a great variety of complaints, without our experiencing the wonderful effects ascribed to it by the former, or the baneful consequences dreaded by the latter. Like other preparations of this valuable herb, it is no doubt a very useful addition to our pharmacopœia; nor does its use seem to be more hazardous than that of opium and some other narcotics.

The London college direct the inspissated juice of cicuta to be prepared in the same manner as that of the elder-berry, and without the addition of any of the powder. This is the most pure extract, and the powder may easily be occasionally added. They direct the cicuta to be collected as soon as the flowers appear: And at that time the leaves are most fully impregnated with their active powers.

SUCCUS SPISSATUS RIBIS NIGRI.

Lond.

Inspissated juice of black currants.

SUCCUS SPISSATUS LIMONIS.

Lond.

Inspissated juice of lemons.

These two also the London college direct to be prepared in the same manner with the elder-berry juice. And under this form the agreeable and useful acid of these vegetables, in a concentrated state, may be preserved for a considerable length of time.

CHAP. IV.

EXTRACTA ET RESINÆ.

EXTRACTS AND RESINS.

Observations on Extracts with Water.

THESE extracts are prepared by boiling the subject in water, and evaporating the strained decoction to a thick consistence.

This process affords us some of the more active parts of the plants, free from the useless indissoluble earthy matter, which makes the largest share of their bulk. There is a great difference in vegetable substances, with regard to their fitness for this operation; some yielding to it all their virtues, and others scarce any. Those parts in which the sweet, glutinous, emollient, cooling, bitter, austere, astringent virtues reside, are for the most part totally extracted by the boiling water, and remain almost entire upon evaporating it: whilst those which contain the peculiar odour, flavour, and aromatic quality, are either not extracted at all, or exhale along with the menstruum. Thus gentian root, which is almost simply bitter, yields an extract possessing in a small volume the whole taste and virtues of the root. Wormwood, which has a degree of warmth and strong flavour joined to the bitter, loses the two first in the evaporation, and gives an extract not greatly different from the foregoing: the aromatic quality of cinnamon is dissipated by this treatment, its astringency remaining; whilst an extract made from the flowers of lavender and rosemary discovers nothing either of the taste, smell, or virtues of the flowers.

General Rules for making Extracts with Water.

1. It is indifferent, with regard to the medicine, whether the subject be used fresh or dry; since nothing that can be preserved in this process will be lost by drying. With regard to the facility of extraction, there is a very considerable difference; vegetables in general giving out their virtues more readily when moderately dried than when fresh.

2. Very compact dry substances should be reduced into exceeding small parts, previous to the affusion of the menstruum.

3. The quantity of water ought to

to be no greater than is necessary for extracting the virtues of the subject. A difference herein will sometimes occasion a variation in the quality of the product: the larger the quantity of liquor, the longer fire will be requisite for evaporating it, and consequently the more of the volatile parts of the subject will be dissipated. A long-continued heat likewise makes a considerable alteration in the matter which is not volatile. Sweet substances, by long boiling with water, become nauseous; and the drastic purgatives lose their virulence, though without any remarkable separation of their parts.

4. The decoctions are to be depurated by colature; and afterwards suffered to stand for a day or two, when a considerable quantity of sediment is usually found at the bottom. If the liquor poured off clear be boiled down a little, and afterwards suffered to cool again, it will deposite a fresh sediment, from which it may be decanted before you proceed to finish the evaporation. The decoctions of very resinous substances do not require this treatment, and are rather injured by it; the resin subsiding along with the inactive dregs.

5. The evaporation is most conveniently performed in broad shallow vessels; the larger the surface of the liquor, the sooner will the aqueous parts exhale: This effect may likewise be promoted by agitation.

6. When the matter begins to grow thick, great care is necessary to prevent its burning. This accident, almost unavoidable if the quantity be large, and the fire applied as usual under the evaporating pan, may be effectually secured against, by carrying on the inspissation after the common manner, no farther than to the consistence of a syrup, when the matter is to be poured into shallow tin or earthen pans, and placed in an oven, with its door open, moderately heated; which acting uniformly on every part of the liquid, will soon reduce it to any degree of consistence required. This may likewise be done, and more securely, in balneo-mariæ, by setting the evaporating vessel in boiling water, but the evaporation is in this way very tedious.

Observations on Extracts with Rectified Spirit.

Rectified spirit of wine dissolves the essential oils and resins of vegetables, and does not readily carry off the oil in its exhalation; the heat sufficient to exhale pure spirit being much less than that in which water evaporates to any considerable degree, or most essential oils distil. Hence a resinous or spirituous extract of wormwood, contrary to that made with water, contains the warmth and flavour, as well as bitterness of the herb; one made from cinnamon possesses its aromatic virtue, as well as its astringency; and one from lavender and rosemary flowers, retains great part of their flavour and virtues; the volatile parts, which are carried off by water in its evaporation being left behind by the spirit.

The spirit employed for this purpose should be perfectly free from any ill flavour, which would be communicated in part to the preparation; and from any admixture of phlegm or water, which would not only vary its dissolving power, but likewise, evaporating towards the end of the inspissation, would promote

mote the diſſipation of the volatile parts of the ſubject. Hence, alſo, the ſubject itſelf ought always to be dry: thoſe ſubſtances which loſe their virtue by drying, loſe it equally on being ſubmitted to this treatment with the pureſt ſpirit.

The inſpiſſation ſhould be performed from the beginning, in the gentle heat of a water bath. It is not needful to ſuffer the ſpirit to evaporate in the air: greateſt part of it may be recovered by collecting the vapour in the common diſtilling veſſels. If the diſtilled ſpirit be found to have brought over any flavour from the ſubject, it may be advantageouſly reſerved for the ſame purpoſes again.

It is obſervable, that tho' rectified ſpirit be the proper menſtruum of the pure volatile oils, and of the groſſer reſinous matter of vegetables, and water of the mucilaginous and ſaline; yet theſe principles are, in almoſt all plants, ſo intimately combined together, that whichever of theſe liquors is applied at firſt, it will take up a portion of what is directly ſoluble only in the other. Hence ſundry vegetables, extremely reſinous, and whoſe virtues conſiſt chiefly in their reſin, afford nevertheleſs very uſeful extracts with water, though not equal to thoſe which may be obtained by a prudent application of ſpirit. Hence, alſo, the extracts made from moſt vegetables by pure ſpirit, are not mere reſins; a part of the gummy matter, if the ſubject contained any ſuch, is taken up along with the reſin, an admixture of great advantage to it in a medicinal view. The ſpirituous extracts of ſeveral vegetable ſubſtances, as mint leaves, rhubarb, ſaffron, diſſolve in water as well as in ſpirit.

Pure reſins are prepared by mixing, with ſpirituous tincture of very reſinous vegetables, a quantity of water. The reſin, incapable of remaining diſſolved in the watery liquor, ſeparates and falls to the bottom; leaving in the menſtruum ſuch other principles of the plant as the ſpirit might have extracted at firſt along with it.

Obſervations on Extracts with Spirit and Water.

There are ſundry vegetables, particularly thoſe of a reſinous nature, which are treated, to better advantage, with a mixture of water and ſpirit, than with either of them ſingly. The virtues of reſinous woods, barks, and roots, may indeed be in great part extracted by long boiling in freſh portions of water; but at the ſame time they ſuffer a conſiderable injury from the continued heat neceſſary for the extraction, and for the ſubſequent evaporation of ſo large a quantity of the fluid. Rectified ſpirit of wine is not liable to this inconvenience; but the extracts obtained by it from the ſubſtances here intended, being almoſt purely reſinous, are leſs adapted to general uſe than thoſe in which the reſin is divided by an admixture of the gummy matter, of which water is the direct menſtruum.

There are two ways of obtaining theſe compound, or gummy-reſinous extracts: one, by uſing proof-ſpirit, that is, a mixture of about equal part of ſpirit and water, for the menſtruum; the other, by digeſting the ſubject firſt in pure ſpirit and then in water, and afterwards uniting into one maſs the parts which the two menſtrua have

ſeparately

ſeparately extracted. In ſome caſes, where a ſufficiency of gummy matter is wanting in the ſubject, it may be artificially ſupplied, by inſpiſſating the ſpirituous tincture to the conſiſtence of a balſam, then thoroughly mixing with it a thick ſolution of any ſimple gum, as mucilage of gum arabic, and exſiccating the compound with a gentle heat. By this method are obtained elegant gummy-reſins, extemporaneouſly miſcible with water into milky liquors.

Obſervations on Extracts by Long Digeſtion.

It has been obſerved, that the virtues of vegetable decoctions are altered by long boiling. Decoctions or infuſions of draſtic vegetables, by long continued boiling or digeſtion, loſe more and more of their virulence; and at the ſame time depoſite more and more of a groſs ſediment, reſulting probably from the decompoſition of their active parts. On this foundation it has been attempted to obtain ſafe and mild preparations from ſundry virulent drugs; and ſome of the chemiſts have ſtrongly recommended the proceſs, though without ſpecifying, or giving any intimation of, the continuance of boiling requiſite for producing the due mildneſs in different ſubjects. M. Baumé, in his *Elemens de Pharmacie*, lately publiſhed, has given a particular account of an extract of opium prepared on this principle; of which extract, as it is alleged to be very uſefeful in practice, it may not be improper to give a ſhort deſcription: And this we ſhall accordingly ſubjoin to our account of the opium purificatum of the London college.

Obſervations on particular Extracts.

EXTRACTUM CHAMÆMELI.

Extract of chamomile.

CACUMINIS GENISTÆ.

Broom tops.

GENTIANÆ.

Gentian.

GLYCYRHIZÆ.

Liquorice.

HELLEBORI NIGRI.

Black hellebore.

RUTÆ.

Of Rue.

SABINÆ.

Savin.

Lond.

Boil the article in diſtilled water, preſs out the decoction, ſtrain it, and ſet it apart that the feces may ſubſide; then boil it again in a water bath ſaturated with ſea-ſalt to a conſiſtence proper for making pills.

The ſame kind of bath is to be uſed in the preparation of all the extracts, that the evaporation may be properly performed.

EXTRACTUM GENTIANÆ.

Edinb.

Extract of gentian.

Take of

Gentian root, as much as you pleaſe.

Having cut and bruiſed it, pour upon it four times its quantity of water. Boil to the conſumption of one half of the liquor; and ſtrongly expreſſing it, ſtrain. Evaporate the decoction to the conſiſtence of pretty thick honey, in veſſels expoſed to the vapour of hot water.

In preparing this and every other extract, it is neceſſary to keep up a conſtant ſtirring towards the end of the proceſs, in order to prevent an empyreuma, and that the extract

may be of an uniform consistence, and free of clots.

In the same manner are prepared

Extract of the
- roots of black hellebore;
- leaves of the pulsatilla nigricans;
- leaves of rue;
- heads of white poppies;
- seeds of hemlock, whilst not perfectly ripe.

All the above extracts contain the virtues of the vegetables in a state of tolerable perfection.

The extract of chamomile loses in its formation the specific flavour of the plan; but it is said to furnish a bitter remarkably antiseptic, and to be given with advantage in different stomach aliments to the extent of a scruple or two, either by itself, or in conjunction with other remedies. The extract of broom tops is chiefly employed in hydropic cases; and when taken to the quantity of a dram or so, it is said to operate as a powerful diuretic.

The mode of preparing these extracts directed by the London and Edinburgh Colleges is not essentially different: But some advantage will arise from employing the distilled water directed by the former; and the directions given by the latter with regard to the quantity of water to be used, and the degree of boiling to be employed before expression, are not without some use.

The extract is the only preparation of the pulsatilla nigricans, and it seems sufficiently well suited to be brought into this form. The extract of the white poppy-heads is not perhaps superior in any respect to opium; but to those who may think otherwise, it is convenient to preserve them in this form for preparing the syrup occasionally. The seeds of hemlock have by some been thought stronger, or at least that they produce giddiness sooner, than the leaves; but this extract has not hitherto come into general use.

EXTRACTUM COLOCYNTHIDIS COMPOSITUM.

Lond

Compound extract of coloquintida.

Take of
- Pith of coloquintida, cut small, six drams;
- Socotorine aloes, powdered, an ounce and a half;
- Scammony, powdered, half an ounce;
- Smaller cardamom seeds, husked and powdered, one dram;
- Proof spirit, one pint.

Digest the coloquintida in the spirit, with a gentle heat, during four days. To the expressed tincture add the aloes and scammony: when these are dissolved, draw off the spirit, so that what remains may be of a consistence proper for making pills, adding the seeds towards the end of the process.

This composition answers very effectually as a cathartic, so as to be relied on in cases where the patient's life depends on that effect taking place: the dose is from fifteen grains to half a dram. The proof-spirit is a very proper menstruum for the purgative materials; dissolving nearly the whole substance of the aloes and scammony, except the imparities; and extracting from the colocynth, not only the irritating resin, but great part of the gummy matter. In our former pharmacopœias three spices were employed in this composition, cinnamon, mace, and cloves: the cardamom seeds, now introduced, are preferable, on account of their aromatic

tic matter being of a leſs volatile nature; though a conſiderable part of the flavour, even of theſe, is diſſipated during the evaporation of the phlegmatic part of the proof-ſpirit.

ELATERIUM.

Elaterium.

Slit ripe wild cucumbers, and paſs the juice, very lightly preſſed, through a very fine ſieve, into a glaſs veſſel; then ſet it by for ſome hours until the thicker part has ſubſided. Pour off the thinner part ſwimming at the top, and ſeparate the reſt by filtering: cover the thicker part, which remains after filtration, with a linen cloth, and dry it with a gentle heat.

What happens in part in preparing the extract of hemlock, happens in this preparation completely, viz. the ſpontaneous ſeparation of the medicinal matter of the juice on ſtanding for a little time: and the caſe is the ſame with the juices of ſeveral other vegetables, as thoſe of arum root, iris root, and bryony root. Preparations of this kind have been commonly called *fæculæ*. The filtration above directed, for draining off ſuch part of the watery fluid as cannot be ſeparated by decantation, is not the common filtration thro' paper, for this does not ſucceed here: The groſſer parts of the juice, falling to the bottom, form a viſcid cake upon the paper, which the liquid cannot paſs through. The ſeparation is to be attempted in another manner, ſo as to drain the fluid from the top: This is effected by placing one end of ſome moiſtened ſtrips of woollen cloth, ſkains of cotton, or the like, in the juice, and laying the other end over the edge of the veſſel, ſo as to hang down lower than the ſurface of the liquor: by this management the ſeparation ſucceeds in perfection.

Elaterium is a very violent hydragogue cathartic. In general, previous to its operation, it excites conſiderable ſickneſs at ſtomach, and not unfrequently it produces ſevere vomiting. Hence it is ſeldom employed till other remedies have been tried in vain. But in ſome inſtances of ſtagnant aſcites it will produce a complete evacuation of water where other cathartics have had no effect. Two or three grains are in general a ſufficient doſe. And perhaps the beſt mode of exhibiting it is by giving it only to the extent of half a grain at a time, and repeating that doſe every hour till it begins to operate.

EXTRACTUM LIGNI CAMPECHENSIS.

Lond.

Extract of Logwood.

Take of

Shavings of logwood, one pound.

Boil it four times, or oftener, in a gallon of diſtilled water, to one half; then, all the liquors being mixed and ſtrained, boil them down to a proper conſiſtence.

The extract of logwood has been uſed for a conſiderable time in ſome of our hoſpitals. It has an agreeable ſweet taſte, with ſome degree of aſtringency; and hence becomes ſerviceable in diarrhœas, for moderately conſtringing the inteſtines and orifices of the ſmaller veſſels: It may be given from a ſcruple to half a dram, and repeated five or ſix times a-day with advantage. During the uſe of this medicine, the ſtools are frequently tinged red by it, which has occaſioned ſome to be alarmed as if the colour proceeded from blood: the practitioner therefore ought to caution the patient againſt any ſurpriſe of this kind.

The active parts of the logwood are difficultly extracted by means of water alone: Hence the Edinburgh college call in the aid of spirit of wine, directing this extract to be prepared in the same manner as that of jalap, afterwards to be mentioned. And of the two modes, we are inclined to consider the latter as intitled to the preference.

EXTRACTUM CORTICIS PERUVIANI.

Lond.

Extract of Peruvian bark.

Take of
- Peruvian bark, coarsely powdered, one pound;
- Distilled water, twelve pints.

Boil it for one or two hours, and pour off the liquor, which, while hot, will be red and pellucid; but, as it grows cold, will become yellow and turbid. The same quantity of water being again poured on, boil the bark as before, and repeat this boiling until the liquor, being cold, remains clear. Then reduce all these liquors, mixed together and strained, to a proper thickness, by evaporation.

This extract must be prepared under two forms; one *soft*, and fit for making pills; the other *hard*, that it may be reducible to a powder.

EXTRACTUM CORTICIS PERUVIANI CUM RESINA.

Lond.

Extract of Peruvian bark with the resin.

Take of
- Peruvian bark, reduced to coarse powder, one pound;
- Rectified spirit of wine, four pints.

Digest it for four days, and pour off the tincture; boil the residuum in ten pints of distilled water to two; then strain the tincture and decoction separately, evaporating the water from the decoction, and distilling off the spirit from the tincture, until each begins to be thickened. Lastly, mix the resinous with the aqueous extract, and make the mass fit for forming into pills.

EXTRACTUM CORTICIS PERUVIANI.

Edinb.

Extract of Peruvian bark.

The Edinburgh college, who have not given a place to any pure watery extract of the bark, direct their extract of this medicine to be prepared in the same manner as their extract of jalap, that is, almost precisely in the same manner as the extract with resin of the London college. It is, however, we think with propriety, that the London college have given a place to both extracts; for each is not without its use.

Peruvian bark is a resinous drug: the resin melts out by the heat, but is not perfectly dissolved by the water; hence, in cooling, it separates, renders the liquor turbid, and in part falls to the bottom, as appears manifestly upon examining the sediment by spirit of wine. This extract might be made to better advantage by the assistance of spirit of wine, after the same manner as that of jalap; and this method the Edinburgh College have directed. But all the spirits which can be expected to be employed for this process among us, are accompanied with some degree of a bad flavour: this adheres most strongly to the phlegmatic part of the spirit, which evaporating last, must communicate this ill flavour to the extract; a circumstance of very great consequence, as this medicine is designed for those whose stomachs are too weak to bear a due quantity of

of bark in ſubſtance. Ten or twelve grains of the hard extract are reckoned equivalent to about half a dram of the bark itſelf.

In the Peruvian bark, however, we may readily diſtinguiſh two different kinds of taſtes, an aſtringent and a bitter one; the former ſeems to reſide principally in the reſinous matter, and the latter chiefly in the gummy. The watery extract is moderately ſtrong in point of bitterneſs, but of the aſtringency it has only a ſmall degree. The pure reſin, on the other hand, is ſtrong in aſtringency, and weak in bitterneſs. Both qualities are united in the extract with reſin; which appears to be the beſt preparation of this kind that can be obtained from this valuable drug.

EXTRACTUM CASCARILLÆ.

Lond.

Extract of caſcarilla.

This extract, which is now for the firſt time introduced into the pharmacopœia of the London college, and which has not yet obtained a place in that of Edinburgh, is directed to be prepared by ſpirit and water in the ſame manner as the extract of bark with the reſin. It poſſeſſes in a concentrated ſtate the active conſtituent parts of the caſcarilla, and has accordingly been already received into ſeveral of the beſt foreign pharmacopœias. In ſome of theſe, as the Pharmacopœia Suecica, it is a mere watery extract: but in others, as the Pharmacopœia Roſſica, the aid both of ſpirits and water are conjoined; and this we conſider as the beſt preparation.

EXTRACTUM JALAPPÆ.

Edinb.

Extract of jalap.

Take of

Jalap root, one pound;
Rectified ſpirit of wine, four pounds.

Digeſt four days, and pour out the tincture. Boil the remaining magma in ten pounds of water to two pounds; then ſtrain the decoction, and evaporate it to the conſiſtence of pretty thin honey. Draw off the ſpirit from the tincture by diſtillation till it becomes thick in like manner. Then mix the liquors thus inſpiſſated; and keeping them conſtantly ſtirring, evaporate to a proper conſiſtence.

The extract of jalap is directed to be prepared by the London college in the ſame manner as their extract of Peruvian bark with the reſin, which differs in nothing from the mode of preparation above directed.

This extract is an uſeful purgative; by ſome thought preferable to the crude root, as being of more uniform ſtrength, and as the doſe, by the rejection of the woody parts, is rendered ſmaller: the mean doſe is twelve grains. If the ſpirituous tincture were inſpiſſated by itſelf, it would afford a reſinous maſs, which, unleſs thoroughly divided by proper admixtures, occaſions violent griping, and yet does not prove ſufficiently cathartic; the watery decoctions yield an extract which operates exceedingly weakly: both joined together, as in this preparation, compoſe an effectual and ſafe purge. This method of making extracts might be advantageouſly applied to ſeveral other reſinous ſubſtances, as the dry woods, roots, barks, &c. A ſmall quantity of ſpirit takes up the reſin; and much leſs water than would otherwiſe be ne-

ceſſary, extracts all the other ſoluble parts.

In a former edition of the Edinburgh Pharmacopœia, a little fixed alkaline ſalt was ordered to be added to the water in which the jalap is boiled after the action of ſpirit; on a ſuppoſition that this would enable the water to extract more from the root than it could by itſelf. But, ſo far as the quantity of the alkaline ſalt could go, it had the oppoſite effect, impeding the action of the water. The reſinous parts of the jalap are diſſolved by the ſpirit; and little other than the gummy matter remains for water to extract. Now, if pure gum arabic be put into water along with any alkaline ſalt, the ſalt will render the water incapable of diſſolving the gum: if the gum be diſſolved firſt, the addition of any alkaline ſalt will precipitate it.

EXTRACTUM SENNÆ.

Lond.

Extract of ſenna.

Take of

Senna, one pound;

Diſtilled water, one gallon;

Boil the ſenna in the diſtilled water, adding after its decoction a little rectified ſpirit of wine. Evaporate the ſtrained liquor to a proper thickneſs.

This extract had no place in our former pharmacopœias, but may be conſidered as an uſeful addition.

The reſinous parts of ſenna are in ſo ſmall a proportion to the gummy, that they are readily boiled out together. The ſpirit may be added when the decoction is reduced to one half or to three pints.

This extract is given as a gentle purgative from ten grains to a ſcruple; or, in leſs quantity, as an aſſiſtant to the milder laxatives.

OPIUM PURIFICATUM.

Purified opium.

Take of

Opium, cut into ſmall pieces, one pound;

Proof ſpirit of wine, twelve pints.

Digeſt the opium with a gentle heat, ſtirring now and then till it be diſſolved, and filter through paper. Diſtil the tincture, ſo prepared, to a proper thickneſs.

Purified opium muſt be kept in two forms; one *ſoft*, proper for forming into pills; the other *hard*, which may be reduced into powder.

Opium was formerly purified by means of water, and in this ſtate it had the name in our pharmacopœia of *extractum thebaicum*. But proof ſpirit has been found, by experiments, to be the beſt menſtruum for opium, having diſſolved nine-twelfths of dried opium, which was much more than was taken up either by rectified ſpirit or water. Hence we thus obtained moſt entirely the conſtituents of opium free from any adhering impurities: But it has been imagined that ſome particular advantages ariſe from obtaining thoſe parts which are extracted by water, eſpecially after long digeſtion; and accordingly the following extract of opium has been recommended by Mr Baumé.

Extract of opium prepared by long digeſtion.

Let five pounds of good opium, cut in pieces, be boiled about half an hour, in twelve or fifteen quarts of water: ſtrain the decoction, and boil the remainder once or twice in freſh water, that ſo much of the opium as is diſſoluble in water may be got out.

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Evaporate the ſtrained decoctions to about ſix quarts; which being put into a tin cucurbit, placed in a ſand-bath, keep up ſuch a fire as may make the liquor nearly boil, for three months together if the fire is continued day and night, and for ſix months if it is intermitted in the night; filling up the veſſel with water in proportion to the evaporation, and ſcraping the bottom with a wooden ſpatula from time to time, to get off the ſediment which begins to precipitate after ſome days digeſtion. The ſediment needs not to be taken out till the boiling is finiſhed; at which time the liquor is to be ſtrained when cold, and evaporated to an extract of a due conſiſtence for being formed into pills.

The author obſerves, that by keeping the liquor ſtrongly boiling, the tedious proceſs may be conſiderably expedited, and the ſix months digeſtion reduced to four months: that in the beginning of the digeſtion, a thick, viſcous, oily matter riſes to the top, and forms a tenacious ſkin as the liquor cools; this is ſuppoſed to be analagous to eſſential oils, though wanting their volatility: that the oil begins to diſappear about the end of the firſt month, but ſtill continues ſenſible till the end of the third, forming oily clouds as often as the liquor cools: that the reſin at the ſame time ſettles to the bottom in cooling, preſerving for a long while its reſinous form, but by degrees becoming powdery, and incapable of being any longer ſoftened, or made to cohere by the heat: that when the proceſs is finiſhed, part of it ſtill continues a perfect reſin, diſſoluble in ſpirit of wine, and part an indiſſoluble powder: that when the digeſted liquor is evaporated to about a quart, and ſet in the cold till next day, it yields a brownish earthy-ſaline matter, called the eſſential ſalt of opium, in figure nearly like the ſedative ſalt obtained from borax, intermingled with ſmall needled cryſtals. He gives an account of his having made this preparation ſix or ſeven times. The veſſel he made uſe of was about two inches and a half diameter in the mouth: the quantity of water evaporated was about twenty-four ounces a-day, and from a hundred and thirty to a hundred and forty quarts during the whole digeſtion. Out of ſixty-four ounces of opium, ſeventeen ounces remained undiſſolved in the water: the quantity of reſinous matter precipitated during the digeſtion, was twelve ounces: from the liquor, evaporated to a quart, he obtained a dram of eſſential ſalt, and might, he ſays, have ſeparated more; the liquor being then further evaporated to a pilular conſiſtence, the weight of the extract was thirty-one ounces.

It is ſuppoſed, that the narcotic virtue of opium reſides in the oily and reſinous parts; and that the gummy extract, prepared by the above proceſs, is endowed with the calming, ſedative, or anodyne powers of the opium, diveſted of the narcotic quality as it is of the ſmell, and no longer productive of the diſorders which opium itſelf, and the other preparations of it, frequently occaſion. A caſe is mentioned, from which the innocence and mildneſs of the medicine are apparent; fifty grains having been taken in a day, and found to agree well, where the common opiate preparations could not be borne. But what ſhare it poſſeſſes of the proper virtues of opium is not ſo clear; for the cure of convulſive motions of the ſtomach and vomitings, which at length happened after the extract had been continued daily in the above doſes for

ſeveral years *(pluſieurs annees)* cannot perhaps be aſcribed fairly to the medicine.

If the theory of the proceſs, and of the alteration produced by it in the opium, be juſt, a preparation equivalent to the above may be obtained in a much ſhorter time. If the intention is to ſeparate the reſinous and oily parts of opium, they may be ſeparated by means of pure ſpirit of wine, in as many hours as the digeſtion requires months. The ſeparation will alſo be as complete, in regard to the remaining gum, though ſome part of the gum will in this method be loſt, a little of it being taken up by the ſpirit along with the other principles.

In what particular part of opium its peculiar virtues reſide, has not perhaps been inconteſtably aſcertained; but this much ſeems clear from experiment, that the pure gum, freed from all that ſpirit can diſſolve, does not differ eſſentially in its ſoporific power from the reſinous part.

There are grounds alſo to preſume, that by whatever means we deſtroy or diminiſh what is called the narcotic, ſoporific, virulent quality of opium, we ſhall deſtroy or diminiſh likewiſe its ſalutary operation. For the ill effects which it produces in certain caſes, ſeem to be no other than the neceſſary conſequences of the ſame power, by which it proves ſo beneficial in others.

EXTRACTUM ABSINTHII.

Suec.

Extract of wormwood.

Take any quantity of the tops of wormwood, and pour upon it double its weight of water. Boil it for a little over a gentle fire, then preſs out the liquor. Boil the reſiduum again in a freſh quantity of water, and after expreſſion, ſtrain it. Let the ſtrained liquor be evaporated in a water-bath to a proper conſiſtence.

In this extract we have one of the ſtrongeſt vegetable bitters in its moſt concentrated ſtate: and although it is not perhaps to be conſidered as ſuperior to the extract of gentian, yet it furniſhes a good variety, and is a more agreeable form for exhibiting the wormwood than that of ſtrong tincture.

EXTRACTUM TARAXACI.

Succ.

Extract of dandelion.

This is directed to be prepared from the roots of the dandelion, collected early in the ſpring, or late in the autumn, in the ſame manner as the extractum abſinthii. And as far as the dandelion really poſſeſſes a reſolvent, aperient, or diuretic power, it furniſhes a convenient form for obtaining theſe effects from it. But as the dandelion is well known to abound with a milky juice, it is probable that the activity of the medicine would be increaſed from employing ſpirit alſo in the extraction of its medical virtues.

EXTRACTUM ALOES AQUOSUM.

Suec.

Watery extract of aloes.

Take of
cold ſpring-water, four pounds,
juice of citrons, one pound,

Macerate them in a glaſs veſſel for one or two days, ſhaking the veſſel from time to time. When the reſinous and fœculent parts have ſubſided, pour off the liquor; and to the reſiduum add freſh water, till by this treatment it obtains little impregnation. Let the ſtrained liquors be then evaporated in a warm bath to the conſiſtence of honey.

Although aloes are perhaps upon the whole a better medicine, in their crude ſtate, where the gummy and reſinous matters are united, than in thoſe preparations where either is retained ſeparately, yet the gummy extract which is thus obtained is at leaſt leſs diſagreeable, having little ſmell or taſte, while at the ſame time it is a very powerful purgative: hence it may be uſefully employed at leaſt on ſome occaſions.

EXTRACTUM MYRRHÆ GUMMOSUM.

Brun.

Gummy extract of myrrh.

Take of
myrrh, half a pound;
ſpring-water, four pounds.
Let the myrrh be diſſolved by gentle digeſtion and repeated agitation of the veſſel for four or five days: let the water ſwiming above the myrrh be then poured off, ſtrained, and evaporated to the conſiſtence of an extract.

This watery extract of the gummyrrh may be uſeful in ſome caſes, as being much deprived of the heating qualities which it has in its crude ſtate: and if it furniſhes us in phthiſis pulmonalis with that uſeful remedy which ſome imagine, it may probably be moſt advantageouſly exhibited under this form.

SUCCUS LIQUORITIÆ DEPURATUS.

Dan.

Refined liquorice.

Take any quantity of Spaniſh liquorice, cut it into ſmall fragments, diſſolve it in tepid water, and ſtrain the ſolution. Let the liquor be poured off from the feculent part after it has ſubſided, and inſpiſſated by a gentle heat.

The extract of liquorice already mentioned, when it is prepared with due ſkill and attention, is unqueſtionably an article ſuperior to this; but it is very rarely met with in the ſhops of our druggiſts or apothecaries, as prepared by themſelves. In its place they very commonly employ either the extract brought from Spain, or that prepared by the makers of liquorice at home; and both theſe very commonly abound with impurities. It has even been ſaid, that a portion of ſand is not unfrequently mixed with it, to increaſe the weight: but whether the impurities ariſe from this cauſe, or from the ſlovenly mode of preparing it, conſiderable advantage muſt ariſe from freeing it from all theſe, before it be employed for any purpoſe in medicine. And in modern practice, it is frequently uſed, not only in troches and pills, but alſo for ſuſpending powders in water; ſuch as the powder of Peruvian bark: and the powder of bark, when thus ſuſpended, is in general taken more readily by children than in any other form. Hence conſiderable advantage muſt ariſe from a proper and eaſy mode of purifying it, which the above proceſs affords. We are of opinion, therefore, that although a place be with propriety given to the extract of liquorice prepared by the apothecaries themſelves, refined liquorice ought alſo to be introduced into our pharmacopœias; and it would be very convenient to keep it in the ſhops in a ſoft conſiſtence, fit for making pills; as it would not only anſwer that purpoſe, but admit of a ready ſolution in water when requiſite. To this conſiſtence indeed, an objection occurs. from its being apt to grow mouldy: but this may be effectually prevented by the addition of a ſmall proportion of ſpirit.

Beſides

Beſides the extracts which we have here ſelected from the foreign pharmacopœias, many others alſo ſtill retain a place in ſeveral of theſe; ſuch for example as the extractum arnicæ, artemiſiæ, bryoniæ, cardui, centaurei, cochlcariæ, croci, &c. Several of theſe had formerly a place in our pharmacopœias, but are now with propriety rejected; becauſe where theſe ſubſtances are to be employed, they may with much more advantage be exhibited under other forms. And, indeed, although under the form of extract we have a condenſation of ſome active principles, yet by the action of fire others are very apt to be loſt. Hence, where any article can be conveniently exhibited in ſubſtance, that form is in general preferable; and recourſe ſhould be had to extracts only with a view to ſome particular intention. Our colleges therefore have, with propriety, diminiſhed the number of them; and even thoſe which they have adopted are but ſeldom to be had recourſe to in preference to other forms. In the formation of many of thoſe extracts retained by the foreign colleges, the moſt valuable principles are either entirely diſſipated or deſtroyed by the fire. We think, however, that advantage may ſometimes be obtained from adopting theſe which are here ſelected.

The chapter on extracts and reſins in the London pharmacopœia is concluded with the two following general directions:

1. All the extracts, during the time of inſpiſſation, muſt be gently agitated.

2. On all the ſofter watery extracts, a ſmall quantity of ſpirit of wine muſt be ſprinkled.

CHAP. V.

EXPRESSED OILS.

EXPRESSED oils are obtained chiefly from certain ſeeds and kernels of fruits, by thoroughly pounding them in a ſtone mortar, or, where the quantities are large, grinding them in mills, and then including them in a canvas bag, which is wrapt in a hair-cloth, and ſtrongly preſſed between iron plates. The canvas, if employed alone, would be ſqueezed ſo cloſe to the plates of the preſs, as to prevent the oil from running down: by the interpoſition of the hair-cloth a free paſſage is allowed it.

Sundry machines have been contrived, both for grinding the ſubject and preſſing out the oil, in the way of buſineſs. To facilitate the expreſſion, it is cuſtomary to warm either the plates of the preſs, or the ſubject itſelf after the grinding, by keeping it ſtirring in a proper veſſel over the fire; the oil, liquefied by the heat, ſeparates more freely and more plentifully. When the oil is deſigned for medicinal purpoſes, this practice is not to be allowed; for heat, eſpecially if its degree be ſufficient to be of any conſiderable

siderable advantage for promoting the separation, renders the oil less soft and palatable, impresses a disagreeable flavour, and increases its disposition to grow rancid: hence the colleges both of London and Edinburgh expresly require the operation to be performed without heat.

Nor are the oils to be kept in a warm place after their expression. Exposed but for a few days to a heat no greater than that of the human body, they lose their emollient quality, and become highly rancid and acrimonious. Too much care cannot be taken for preventing any tendency to this acrid irritating state in medicines, so often used for abating immoderate irritation

So much are these oils disposed to this injurious alteration, that they frequently contract an acrimony and rancidity while contained in the original subjects. Hence great care is requisite in the choice of the unctuous seeds and kernels, which are often met with very rancid; almonds are particularly liable to inconveniences of this kind.

Expressed oils are prepared for mechanic uses from sundry different subjects, as nuts, poppy-seed, hemp-seed, rape-seed, and others. Those directed for medicinal purposes in the London and Edinburgh pharmacopœias are the following:

OLEUM AMYGDALÆ.

Lond. Ed.

Almond oil.

Pound fresh almonds, either sweet or bitter, in a mortar, then press out the oil in a cold press.

In the same manner is to be expressed,

Ol. e sem. Lini contusis;
Oil of flax-seed.

Ol. e sem sinapeos contusis;
Mustard-seed.

The oil of almonds is prepared from the sweet and bitter almonds indifferently; the oils obtained from both sorts being altogether the same. Nor are the differences of the other oils very considerable, the discriminating qualities of the subjects not residing in the oils that are thus obtained by expression. The oil of linseed acquires indeed some peculiarities from containing a proportion of vegetable mucilage; but the oil of mustard-seed is as soft, insipid, and void of pungency, as that of sweet almonds, the pungency of the mustard remaining entire in the cake left after the expression. The several oils differ in some of their properties from each other; but in medicinal qualities they appear to be all nearly alike, and agree in one common emollient virtue. They soften and relax the solids, and obtund acrimonious humours; and thus become serviceable internally in pains, inflammations, heat of urine, hoarseness, tickling coughs, &c. in glysters, for lubricating the intestines, and promoting the ejection of indurated feces; and in external applications, for tension and rigidity of particular parts. Their common dose is half an ounce: in some cases, they are given to the quantity of three or four ounces. The most commodious forms for their exhibition, we shall see hereafter in the chapter of Emulsions.

OLEUM E SEMINIBUS RICINI DEMTO PRIUS CORTICE.

Lond.

Castor oil.

This oil is directed by the London college to be prepared in the same manner as that of almonds, the seeds or nuts being taken from the husks before putting them into the mortar. Palma Christi, or castor oil, as has already been observed in the

the Materia Medica, under the article Ricinus, is a gentle and uſeful purgative: it in general produces its effects without griping, and may be given with ſafety where acrid purgatives are improper. With adults, from half an ounce to an ounce is in general requiſite for a doſe This article, however, is very ſeldom prepared by our apothecaries, being in general imported under the form of oil from the Weſt Indies: hence the Edinburgh college have not mentioned it among their preparations, but merely given it a place in their liſt of the materia medica. But when our apothecaries prepare it for themſelves, they are more certain of obtaining a pure oil, and one too obtained without the aid of heat, which is often employed, and gives a much inferior oil. It is therefore with propriety that the London college have given directions for the preparation of it by the apothecary himſelf. But even the London college have not thought it neceſſary to give directions for the preparation of the following expreſſed oils, which, as well as the oleum ricini, are alſo introduced into the liſt of the materia medica by the Edinburgh college.

Oleum expreſſum	Expreſſed oil of
Baccarum lauri;	bay berries.
Nucis moſchatæ;	mace.
Olivarum;	olives.
Palmæ;	palm oil.

Theſe alſo are principally conſidered as poſſeſſing only an emollient virtue; but as far as they have been ſuppoſed to exert any peculiar qualities, theſe we have already had occaſion to mention in the materia medica, when treating of the articles from which they are obtained.

OLEUM CACAO.

Suec.

Oil of chocolate nuts.

Expreſs the oil from the nuts ſlightly toaſted, and freed from their coverings.

In this oil we have the nutritious part of chocolate, free from thoſe aromatics with which it is united in the ſtate in which it is kept in our ſhops. And although under the form of chocolate it ſits perhaps more eaſily on the ſtomach than in moſt other forms; yet where, from any particular circumſtance, aromatics are contraindicated, the oil in its pure ſtate gives us an opportunity of employing in different ways this mild nutritious article.

OLEUM E SEMINIBUS HYOSCIAMI.

Suec.

Oil of hyoſciamus.

This oil is directed to be obtained by expreſſion from the ſeeds of the hyoſciamus, in the ſame manner as that of almonds.

Of the narcotic powers of the hyoſciamus ſome obſervations have already been offered. This oil, although an expreſſed one, is ſaid to retain theſe virtues; and accordingly it has entered the compoſition of ſome anodyne ointments and plaſters. We are however inclined to think, that when the ſedative power of hyoſciamus is wanted under the form of oil, it may be beſt obtained from impregnating olive oil by the leaves of the plant.

OLEUM OVI.

Suec.

Egg oil.

Take any quantity of freſh eggs, boil them till they be quite hard, then take out the yolks, break them in pieces, and roaſt them gently in a frying-pan, till, when preſſed between the fingers, they give out a certain fatneſs; put them,

them, while warm, into a hair bag, and express the oil.

The yolk of the egg is well known to be a mild nutritious substance: but notwithstanding the many virtues at one time attributed to it, of being paregoric and styptic, as externally applied; and of being useful in stomach complaints, dysentery, and different affections of the alimentary canal, when taken internally; it is much to be doubted whether it be in any other way useful in medicine than as an article of diet: and we are very uncertain whether any particular purpose in medicine will be answered by this expressed oil: but as it holds a place in most of the foreign pharmacopœias of modern date, it may justly be considered as deserving some attention.

Notwithstanding the justice of the observation made respecting the great similarity of expressed oils in general, yet there can be no doubt, that in some instances they obtain a peculiar impregnation. This manifestly appears in the oleum ricini, oleum nucis moschatæ, and some of the others mentioned above. Indeed oils expressed from aromatic substances, in general retain some admixture of the essential oil of the subject from which they are expressed. Nor is this surprising, when we consider that in some cases the essential oil exists in a separate state even in the growing plant.

The rinds of the several varieties of oranges, lemons, and citrons, yield, by a kind of expression, their essential oils almost pure, and nearly similar to those which are obtained from them by distillation. The essential oils, in which the fragrance and aromatic warmth of these fruits reside, are contained in numerous little vesicles, which may be distinguished by the naked eye, spread all over the surface of the peel. If the rind be cut in slices, and the slices separately doubled or bent in different parts, and squeezed between the fingers, the vesicles burst at the bending, and discharge the oil in a number of fine slender jets. A glass plate being set upright in a glass or porcelaine vessel, and the slices squeezed against the plates, the little jets unite into drops upon the plate, and trickle down into the vessel beneath. But though this process affords the true native oil, in the same state wherein it existed in the subject, unaltered by fire or other agents, it is not practicable to advantage, unless where the fruit is very plentiful; as only a small part of the oil it contains can thus be extracted or collected

The oil is more perfectly separated by rubbing the rind upon a lump of sugar. The sugar, by the inequality of its surface, produces the effect of a rasp, in tearing open the oily vesicles; and in proportion as the vesicles are opened, the sugar imbibes the oil. When the outward part of the lump is sufficiently moistened, it is scraped off, and the operation continued on the fresh surface. The oil thus combined with the sugar, is fit for most of the uses to which it is applied in a fluid state. Indeed the pure essential oils, obtained by distillation, are often purposely mixed with sugar, to render their use the more commodious.

CHAP.

CHAP. VI.

OLEA DISTILLATA.

ESSENTIAL OILS.

ESSENTIAL oils are obtained only from odoriferous ſubſtances; but not equally from all of this claſs, nor in quantity proportionable to their degree of odour. Some, which, if we were to reaſon from analogy, ſhould ſeem very well fitted for this proceſs, yield extremely little oil, and others none at all. Roſes and camomile flowers, whoſe ſtrong and laſting ſmell promiſes abundance, are found upon experiment to contain but a ſmall quantity: the violet and jeſſamine flower, which perfume the air with their odour, loſe their ſmell upon the gentleſt coction, and do not afford the leaſt perceptible mark of oil upon being diſtilled, unleſs immenſe quantities are ſubmitted to the operation at once; whilſt ſavin, whoſe diſagreeable ſcent extends to no great diſtance, gives out the largeſt proportion of oil of almoſt any vegetable known.

Nor are the ſame plants equally fit for this operation, when produced in different ſoils or ſeaſons. or at different times of their growth. Some yield more oil if gathered when the flowers begin to fall off than at any other time. Of this we have examples in lavender and rue; others, as ſage, afford the largeſt quantity when young, before they have ſent forth any flowers and others, as thyme, when the flowers have juſt appeared. All fragrant herbs yield a larger proportion of oil when produced in dry ſoils and warm ſummers, than in the oppoſite circumſtances. On the other hand, ſome of the diſagreeable ſtrong-ſcented ones, as wormwood, are ſaid to contain moſt in rainy ſeaſons and when growing in moiſt rich grounds.

SEVERAL of the chemiſts have been of opinion, that herbs and flowers, moderately dried, yield a greater quantity of eſſential oil, than if they were diſtilled when freſh. It is ſuppoſed, that the oil being already blended, in freſh plants, with a watery fluid, great part of it remains diffuſed through the water after the diſtillation, divided into particles too minute to unite and be collected; whereas in drying, the oily parts, on the exhalation of the moiſture which kept them divided and diſperſed, run together into globules, which have little diſpoſition to mingle with watery fluids, and eaſily ſeparate from the water employed in the diſtillation.

This theory, however, does not appear to be altogether ſatisfactory: for though the oil be collected in the ſubject into diſtinct globules, it does not

not rise in that form, but is resolved into vapour, and blended and coagitated by the heat with the vapour of the water; and if the oil in a dry plant was less disposed to unite with aqueous fluids than in a fresh one, the dry ought to yield a weaker infusion than the fresh; the contrary of which is generally found to obtain. As the oil of the dry plant is most perfectly extracted, and kept dissolved by the water before the distillation, it is difficult to conceive any reason why it should have a greater tendency to separate from the water afterwards.

The opinion of dry plants yielding most oil, seems to have arisen from an observation of Hoffman, which has probably been misunderstood: "A pound (he says) of dry "spike flowers yields an ounce of "oil; but if they were distilled "fresh, they would scarcely yield "above half an ounce; and the "case is the same in balm, sage, "&c The reason is, that in dry-"ing, the watery humidity ex-"hales; and as from two pounds "of a fresh plant we do not ob-"tain above one pound of dry, and "little of the subtile oil evaporates "in the drying, it follows, that "more oil ought to be afforded by "the dry than by the fresh." The meaning of which seems to be no more than this, that if two pounds of a fresh plant are by drying reduced to one, without any loss of the oil, then the one pound dry ought to be equivalent to the two fresh. A late writer quotes an experiment of Neumann, which appears to be misunderstood in the same manner; for Neumann, in the place referred to, says only, that dry wormwood is found to yield much more oil than an *equal weight* of the fresh plant. Trials are yet wanting in which fresh and dry plants have been brought to a fair comparison, by dividing a quantity of the subject into two equal weights, and distilling one while fresh, and the other after it has been carefully and moderately dried.

But whatever may be the effect of moderate exsiccation, it is certain, that if the drying be long continued, the produce of oil will be diminished, its colour altered, and its smell impaired.

With regard to the proportion of water to be employed, if whole plants, moderately dried, are used, or the shavings of woods, as much of either may be put into the vessel as, lightly pressed, will occupy half its cavity; and as much water may be added, as will rise up to two thirds its height. The water and ingredients, altogether, should never take up more than three-fourths of the still; there should be liquor enough to prevent any danger of an empyreuma, but not so much as to be too apt to boil over into the receiver.

The maceration should be continued so long, that the water may fully penetrate the parts of the subject. To promote this effect, woods should be thinly shaved across the grain, or sawed, roots cut transversely into thin slices, barks reduced into coarse powder, and seeds lightly bruised. Very compact and tenacious substances require the maceration to be continued a week or two, or longer; for those of a softer and looser texture, two or three days are sufficient; whilst some tender herbs and flowers not only stand not in need of any at all, but are even injured by it.

Whether the addition of sea-salt, which some have recommended, be of any real service, is much to be doubted. The uses generally assigned to it are, to penetrate and unlock the texture of the subject more effectually

fectually than ſimple water could do; and to prevent the fermentation or putrefaction, which the matter is apt to run into during the length of time for which the maceration is often continued. But ſea-ſalt ſeems rather to harden and condenſe, than to ſoften and reſolve, both vegetable and animal ſubjects; and if it prevents putrefaction, it muſt, on that very account, be rather injurious than of ſervice. The reſolution here aimed at, approaches near to a beginning putrefaction; and ſaline ſubſtances, by retarding this, prolong the maceration far beyond the time that would otherwiſe be neceſſary. It is in the power of the operator, when he perceives the proceſs coming near this pitch, to put a ſtop to it at pleaſure, by proceeding immediately to diſtillation: by this means the whole affair will be finiſhed in a very little time, with at leaſt equal advantage in every other reſpect; provided the manual operations of pounding, raſping, and the like, which are equally neceſſary in either caſe, be ſcientifically complied with.

Bodies of a very viſcous and compact texture, were directed, in the Edinburgh Pharmacopœia, to be fermented for ſome days with a little yeſt; half their quantity of water is ſufficient for performing the fermentation. As much more as is neceſſary is to be added afterwards before the diſtillation. This proceſs undoubtedly promotes the reſolution of the ſubject, and the extrication of the oil; it rarely happens, however, that aſſiſtances of this kind are needful. Particular care muſt be had not to continue the fermentation too long; or to give a bad flavour to the oil by an ill-choſen ferment, or uſing too large a quantity of any

Some chemiſts pretend, that by the addition of ſalts and acid ſpirits, they have been enabled to gain more oil from certain vegetable matters than could poſſibly be got from them without ſuch aſſiſtance. Experiments made on purpoſe to ſettle this point ſeem to prove the contrary; this at leaſt is conſtantly found to be true, that where there is any reaſon to think the yield to be greater than uſual, the quality of the oil is proportionably injured. The quantity of true eſſential oil in vegetables can by no means be increaſed; and what is really contained in them may be eaſily ſeparated without any addition of this kind. All that ſaline matters can do in this reſpect, is, to make the water ſuſceptible of a greater degree of heat than it can ſuſtain by itſelf, and thus enable it to carry up a groſs unctuous matter not volatile enough to ariſe with pure water: this groſs matter, mingling with the pure oil, increaſes the quantity, but at the ſame time muſt neceſſarily debaſe its quality. And indeed, when water alone is made uſe of, the oil which comes over about the end of the operation is remarkably leſs fragrant, and of a thicker conſiſtence, than that which ariſes at the beginning; diſtilled a ſecond time, with a gentle heat, it leaves a large quantity of groſs almoſt inſipid reſinous matter behind.

The choice of proper inſtruments is of great conſequence for the performance of this proceſs to advantage. There are ſome oils which paſs freely over the ſwan neck of the head of the common ſtill: others, leſs volatile, cannot eaſily be made to riſe ſo high. For obtaining theſe laſt, we would recommend a large low head, having a rim or hollow canal round it: in this canal the oil is detained on its firſt aſcent, and thence

thence conveyed at once into the receiver, the advantages of which are sufficiently obvious.

With regard to the fire, the operator ought to be expeditious in raising it at first, and to keep it up, during the whole process, of such a degree that the oil may freely distil; otherwise the oil will be exposed to an unnecessary heat; a circumstance which ought as much as possible to be avoided. Fire communicates to all these oils a disagreeable impression, as is evident from their being much less grateful when newly distilled, than after they have stood for some time in a cool place; the longer the heat is continued, the more alteration it must produce in them.

The greater number of oils require for their distillation the heat of water strongly boiling: but there are many also which rise with a heat considerably less; such as those of lemon and citron peel, of the flowers of lavender and rosemary, and of almost all the more odoriferous kinds of flowers. We have already observed, that these flowers have their fragrance much injured, or even destroyed, by beating or bruising them; it is impaired also by the immersion in water in the present process, and the more so in proportion to the continuance of the immerson and the heat: hence these oils, distilled in the common manner, prove much less agreeable in smell than the subjects themselves. For the distillation of substances of this class, another method has been contrived; instead of being immersed in water, they are exposed only to its vapour. A proper quantity of water being put into the bottom of the still, the odoriferous herbs or flowers are laid lighlty in a basket, of such a size that it may enter into the still, and rest against its sides, just above the water. The head being then fitted on, and the water made to boil, the steam, percolating through the subject, imbibes the oil, without impairing its fragrance, and carries it over into the receiver. Oils thus obtained possess the odour of the subject in an exquisite degree, and have nothing of the disagreeable scent perceivable in those distilled by boiling them in water in the common manner.

It may be proper to observe, that those oils which rise with a less heat than that of boiling water, are generally called, by the chemical and pharmaceutical writers, *light* oils; and those which require the heat of water strongly boiling, are called *ponderous*. We have avoided these expressions, as they might be thought to relate to the comparative *gravities* of the oils; with which the volatility or fixedness have no connection. Olive oil is lighter than most of the essential oils; but the heat requisite to make it distil exceeds that in which the heaviest essential oil distils, considerably more than the heat of boiling water exceeds that of ice.

The water employed in the distillation of essential oils always imbibes some portion of the oil; as is evident from the smell, taste, and colour, which it acquires. It cannot, however, retain above a certain quantity; and therefore, such as has been already used and almost saturated itself, may be advantageously employed, instead of common water, in a second, third, or any future distillation of the same subject.

Some late chemical writers recommend, not the water which comes over, but that which remains in the still, to be used a second time. This can be of no service; as containing only such parts of the vegetable as are not capable of arising

in distillation, and which serve only to impede the action of the water as a menstruum, and to endanger an empyreuma.

After the distillation of one oil, particular care should be had duly to cleanse the worm before it be employed in the distillation of a different plant. Some oils, those of wormwood and aniseeds for instance, adhere to it so tenaciously, as not to be melted out by heat, or washed off by water: the best way of cleansing the worm from these, is to run a little spirit of wine through it.

Essential oils, after they are distilled, should be suffered to stand for some days, in vessels loosely covered with paper, till they have lost their disagreeable fiery odour, and become limpid: then put them up in small bottles, which are to be kept quite full, closely stopped, in a cool place: with these cautions, they will retain their virtues in perfection for many years.

When carelessly kept, they in time gradually lose of their flavour, and become gross and thick. Some endeavour to recover them again after they have undergone this change, by grinding them with about thrice their weight of common salt, then adding a large proportion of water, and distilling them afresh: the purer part arises thin and limpid, possessing a great degree of the pristine smell and taste of the oil, though inferior in both respects to what the oil was at first. This rectification, as it is called, succeeds equally without the salt: the oils, when thus altered, are nearly in the same state with the turpentines, and other thickened oily juices, which readily yield their purer oil in distillation with water alone.

When essential oils have entirely lost their smell, some recommend adding them in the distillation of a fresh quantity of the oil of the same plant; by which means they are said to satiate themselves anew with the odorous matter, and become entirely renovated. This practice, however, ought doubtless to be disapproved, as being no other than a specious sophistication; for it can do no more than divide, between the old and the new, the active matter which belongs to the new alone.

Essential oils, medicinally considered, agree in the general qualities of pungency and heat; in particular virtues, they differ as much as the subjects from which they are obtained, the oil being the direct principle in which the virtues, or at least a considerable part of the virtues, of the several subjects reside. Thus the carminative virtue of the warm seeds, the diuretic of juniper berries, the emmenagogue of savin, the nervine of rosemary, the stomachic of mint, the antiscorbutic of scurvy-grass, the cordial of aromatics, &c. are supposed to be concentrated in their oils.

There is another remarkable difference in essential oils, the foundation of which is less obvious, that of the degree of their pungency and heat. These are by no means in proportion, as might be expected, to those of the subject they were drawn from. The oil of cinnamon, for instance, is excessively pungent and fiery; in its undiluted state it is almost caustic; whereas cloves, a spice which in substance is far more pungent than the other, yields an oil which is far less so. This difference seems to depend partly upon the quantity of oil afforded, cinnamon yielding much less than cloves, and consequently having its active matter concentrated into a smaller volume; partly, upon a difference in the nature of the active parts themselves: for though essential

essential oil contain always the specific odour and flavour of their subjects, whether grateful or ungrateful, they do not always contain the whole pungency; this resides frequently in a more fixed resinous matter, and does not rise with the oil. After the distillation of cloves, pepper, and some other spices, a part of their pungency is found to remain behind: a simple tincture of them in rectified spirit of wine is even more pungent than their pure essential oils.

The more grateful oils are frequently made use of for reconciling to the stomach medicines of themselves disgustful. It has been customary to employ them as correctors for the resinous purgatives; an use which they do not seem to be well adapted to. All the service they can here be of, is, to make the resin sit more easily at first on the stomach: far from abating the irritating quality upon which the virulence of its operation depends, these pungent oils superadd a fresh stimulus.

Essential oils are never given alone, on account of their extreme heat and pungency; which in some is so great, that a single drop let fall upon the tongue, produces a gangrenous eschar. They are readily imbibed by pure dry sugar, and in this form may be conveniently exhibited. Ground with eight or ten times their weight of the sugar, they become soluble in aqueous liquors, and thus may be diluted to any assigned degree. Mucilages also render them miscible with water into an uniform milky liquor. They dissolve likewise in spirit of wine; the more fragrant in an equal weight, and almost all of them in less than four times their own quantity; these solutions may be either taken on sugar, or mixed with syrups, or the like: on mixing them with water, the liquor grows milky, and the oil separates.

The more pungent oils are employed externally against paralytic complaints, numbness, pains, and aches, cold tumours, and in other cases where particular parts require to be heated or stimulated. The tooth-ach is sometimes relieved by a drop of these almost caustic oils, received on cotton, and cautiously introduced into the hollow tooth.

OLEUM ESSENTIALE.

Lond.

Essential oil of

1. *Anisi*,	Anise
2. *Carui*,	Caraway
3. *Lavendulæ*,	Lavender
4. *Menthæ piperitidis*;	Peppermint
5. *Menthæ sativæ*;	Spearmint
6. *Origani*,	Origanum
7. *Pulegii*.	Pennyroyal
8. *Rorismarini*,	Rosemary
9. *Baccæ juniperi*,	Juniper-berry
10. *Radicis sassafras*,	Sassafras root.

Let these oils be drawn off by distillation, from an alembic with a large refrigeratory; but, to prevent an empyreuma, water must be added to the ingredients; and in this they must be macerated before distillation.

The water which comes over with the oil in distillation is to be kept for use.

OLEA ESSENTIALIA.

Edinb.

Essential oils.

Herbæ menthæ sativæ, of the herbs of garden mint.

—*menthæ piperitidis*, of Peppermint.

—*sabinæ*, of Savin.

Summitatum rosmarini, of the tops of rosemary.

Spicarum florentium lavendulæ, of the flowering spikes of lavender.

Seminum anisi, of Aniseeds.

Baccarum juniperi, of Juniper-berries.

Radicis sassafras, of Sassafras root.

Piperis Jamaicenſis, of Jamaica pepper.

Theſe are prepared almoſt in the ſame manner as the ſimple diſtilled waters, excepting that for procuring the oil a ſomewhat leſs quantity of water is to be uſed. Seeds and woody matters are firſt to be bruiſed or ſhaved. The oil ariſes with the water; and as it is lighter or heavier, ſwims on the ſurface, or ſinks to the bottom, from which it is afterwards to be ſeparated.

It is, however, to be remarked, that, in preparing theſe diſtilled waters and oils, ſo many varieties muſt neceſſarily take place from the goodneſs of the ſubject itſelf, its texture, the time of the year, and ſuch like circumſtances, that a certain and general rule, which ſhould ſtrictly apply to each example, can ſcarcely be laid down; wherefore we have only explained the general method, leaving many things to be varied by the judgment of the operator.

To the directions for preparing theſe eſſential oils given by the London and Edinburgh colleges, we ſhall here next ſubjoin a few remarks on their medical properties.

OLEUM SEMINUM ANISI ESSENTIALE.

Lond. Edin.

Eſſential oil of aniſeeds.

This oil poſſeſſes the taſte and ſmell of the aniſeeds in perfection. It is one of the mildeſt of the diſtilled oils; 15 or 20 drops may be taken at a time without danger, tho' common practice rarely goes ſo far as half this number. Its ſmell is extremely durable and diffuſive: milk drawn from the breaſt after taking it, is found impregnated with its odour; and poſſibly this may be, in part, the foundation of the pectoral virtues uſually aſcribed to it: in flatulencies and colics, it is ſaid by ſome to be leſs effectual than the ſeeds themſelves.

It is remarkable of this oil, that it congeals, even when the air is not ſenſibly cold, into a butyraceous conſiſtence: and hence, in the diſtillation of it, the operator ought not to be over-ſolicitous in keeping the water in the refrigeratory too cool: it behoves him rather to let it grow ſomewhat hot, particularly towards the end of the proceſs; otherwiſe the oil congealing, may ſo ſtop up the worm, as to endanger blowing off the head of the ſtill, or at leaſt a conſiderable quantity of oil will remain in it.

OLEUM SEMINUM CARUI ESSENTIALE.

Lond.

Eſſential oil of caraway ſeeds.

The flavour of this exactly reſembles that of the caraway itſelf. It is a very hot and pungent oil; a ſingle drop is a moderate doſe, and five or ſix is a very large one. It is not unfrequently made uſe of as a carminative; and ſuppoſed by ſome to be peculiarly ſerviceable for promoting urine, to which it communicates ſome degree of its ſmell.

OLEUM florum LAVENDULÆ ESSENTIALE.

Lond. Edin.

Eſſential oil of lavender flowers.

This oil, when in perfection, is very limpid, of a pleaſant yellowiſh colour, extremely fragrant, poſſeſſing in an eminent degree the peculiar ſmell generally admired in the flowers. It is a medicine of great uſe, both externally and internally, in paralytic and lethargic complaints, rheumatic pains, and debilities of the nervous ſyſtem. The doſe is from one drop to five or ſix.

Laven-

Lavender flowers yield the most fragrant oil, and in considerably the largest quantity, when they are ready to fall off spontaneously, and the leaves begin to show themselves: the seeds give out extremely little. The flowers may be separated from the rest of the plant, by drying it a little, and then gently beating it: they should be immediately committed to distillation, and the process conducted with a well regulated gentle heat; too great heat would not only change the colour of the oil, but likewise make a disagreeable alteration in its smell.

OLEUM MENTHÆ PIPERITIDIS ESSENTIALE.

Lond. Edinb.

Essential oil of the leaves of peppermint.

This possesses the smell, taste, and virtues of the peppermint in perfection; the colour is a pale greenish yellow. It is a medicine of great pungency and subtility; and diffuses, almost as soon as taken, a glowing warmth through the whole system. In colics, accompanied with great coldness, and in some hysteric complaints, it is of excellent service. A drop or two are in general a sufficient dose.

OLEUM MENTHÆ SATIVÆ ESSENTIALE.

Lond. Edinb.

Essential oil of the leaves of common mint.

This oil smells and tastes strongly of the mint, but is in both respects somewhat less agreeable than the herb itself. It is an useful stomachic medicine; and not unfrequently exhibited in want of appetite, weakness of the stomach, retchings to vomit, and other like disorders, when not accompanied with heat or inflammation: two or three drops, or more, are given for a dose. It is likewise employed externally for the same purposes; and is an useful ingredient in the stomachic plaster of the shops.

OLEUM ORIGANI ESSENTIALE.

Lond.

Essential oil of the leaves of origanum.

This oil has a very pungent acrimonious taste, and a penetrating smell. It has been chiefly employed externally as an errhine, and for easing pains of the teeth.

OLEUM PULEGII ESSENTIALE.

Lond.

Essential oil of the leaves of pennyroyal.

This oil, in smell and taste, resembles the original plant; the virtues of which it likewise possesses. It is given in hysteric cases, from one to four or five drops.

OLEUM ROSIMARINI ESSENTIALE.

Lond. Edinb.

Essential oil of rosemary.

The oil of rosemary is drawn from the plant in flower. When in perfection, it is very light and thin, pale, and almost colourless; of great fragrancy, though not quite so agreeable as the rosemary itself. It is recommended, in the dose of a few drops, in nervous and hysteric complaints. Boerhaave holds it in great esteem against epilepsies, and suppressions of the uterine purgations occasioned by weakness and inactivity.

OLEUM baccarum JUNIPERI ESSENTIALE.

Lond. Edinb.

Essential oil of juniper-berries.

This oil is a very warm and pungent one; of a strong flavour, not un-

unlike that of the berries. In the dose of a drop or two, it proves a serviceable carminative and stomachic: in one of six, eight, or more, a stimulating, detergent, diuretic, and emmenagogue: it seems to have somewhat of the nature of the turpentines, or their distilled oil; like which it communicates a violent smell to the urine.

The oil of these berries resides partly in vesicles spread through the substance of the fruit, and partly in little cells contained in the seeds: when the berry is dry, and the oil hardened into a resinous substance, it becomes visible, upon breaking the seeds, in form of little transparent drops. In order therefore to obtain this oil to advantage, we ought, previous to the distillation, to bruise the berry thoroughly, so as to break the seeds, and entirely lay open the oily receptacles.

OLEUM SASSAFRAS ESSENTIALE.

Lond. Edinb.

Essential oil of sassafras.

This is the most ponderous of all the known essential oils, but rises in distillation with sufficient ease: it appears limpid as water, has a moderately pungent taste, a very fragrant smell, exactly resembling that of the sassafras. It stands greatly commended as a sudorific, and for purifying the blood and juices; it is likewise supposed to be of service in humoral asthmas and coughs. The dose is from one drop to eight or ten; though Geoffroy goes as far as twenty.

The decoction remaining after the distillation of the oil, affords by inspissation an useful extract, of a mild, bitterish, subastringent taste. Hoffman says, he has given it with great benefit, in doses of a scruple, as a corroborant in cachectic cases, in the decline of intermitting fevers, and for abating hypochondriacal spasms.

OLEUM SABINÆ ESSENTIALE.

Lond. Edinb.

Essential oil of savin leaves.

Savin is one of the plants which, in former editions of the Edinburgh Pharmacopœia, were directed to be lightly fermented before the distillation: this, however, is not very necessary; for savin yields, without fermentation, and even without any such maceration, a very large quantity of oil: the foregoing herb stands more in need of a treatment of this kind. The oil of savin is a celebrated uterine and emmenagogue: in cold phlegmatic habits, it is undoubtedly a medicine of great service, though not capable of performing what it has been often represented to do. The dose is, two or three drops, or more.

OLEUM ESSENTIALE PIPERIS JAMAICENSIS.

Edinb.

Essential oil of Jamaica pepper.

This is a very elegant oil, and may be used as a succedaneum to those of some of the dearer spices. It is of a fine pale colour; in flavour more agreeable than the oil of cloves, and not far short of that of nutmegs. It sinks in water, like the oils of some of the eastern spices.

OLEUM PETROLEI.

Lond.

Oil of fossil tar.

Distil fossil tar, the *bitumen petroleum*, in a sand heat.

The oil obtained from this tar will be more or less thin according to the continuance of the distillation; and by its continuance the tar will at last be reduced to a black coal; and then the oil will be pretty deep in

colour, though perfectly fluid. This oil has a property similar to that of the tincture of nephritic wood in water, appearing blue when looked upon, but of an orange colour when held betwixt the eye and the light. By long keeping it loses this property. It is less disagreeable than some of the other empyreumatic oils which had formerly a place in our pharmacopœia, such as the oleum lateritium, though very acrid and stimulating.

OLEUM TEREBINTHINÆ.

Lond.

Oil of turpentine.

Take of
Common turpentine, five pounds.
Water, four pounds.
Distil the turpentine with the water from an alembic of copper. After the distillation of the oil, what remains is yellow resin.

OLEUM TEREBINTHINÆ RECTIFICATUM.

Lond.

Rectified oil of turpentine.

Take of
Oil of turpentine, one pound;
Distilled water, four pints.
Distil.

The process here proposed for rectifying this oil, is not only tedious but accompanied with danger. For unless the luting be very close, some of the vapour will be apt to get through; and if this catch fire, it will infallibly burst the vessels. This rectified oil, which in many pharmacopœias is styled æthereal, does not considerably differ in specific gravity, smell, taste, or medical qualities, from the former.

The spirit of turpentine, as this essential oil has been styled, is not unfrequently taken internally as a diuretic and sudorific. And in these ways it has sometimes a considerable effect when taken even to the extent of a few drops only. It has, however, been given in much larger doses, especially when mixed with honey. Recourse has principally been had to such doses in cases of chronic rheumatism, particularly in those modifications of it which are styled *sciatica* and *lumbago*. But they have not been often successful, and sometimes they have had the effect of inducing bloody urine.

OLEUM ANIMALE.

Lond.

Animal oil.

Take of
Oil of hartshorn, one pound.
Distil three times.

OLEUM e CORNUBUS RECTIFICATUM, five OLEUM ANIMALE.

Edinb.

Rectified oil of horns, or *animal oil.*

Take of
Empyreumatic oil, newly distilled from the horns of animals, as much as you will.
Distil with a gentle heat, in a matrass furnished with a head, as long as a thin colourless oil comes over, which is to be freed of alkaline salt and spirit by means of water. That this oil may remain limpid and good, it ought be put up in small phials completely filled and inverted, having previously put into each phial a few drops of water, that on inverting it the water may interpose itself betwixt the oil and the mouth of the phial.

The quantity of oil employed in this process should be considerable: for it leaves so much black matter behind in the several distillations, that it is reduced at last to a small portion of its original quantity. It is said, that the product is got more lim-

limpid, by mixing the oil with quicklime into a ſoft paſte; the lime keeping down more of the groſs matter than would remain without ſuch an addition. The quicklime may here alſo, perhaps, act by abſtracting fixed air; to the abſorption of which we are diſpoſed to refer in ſome meaſure the ſpoiling of the oil on expoſure to the atmoſphere.

This oil was firſt introduced by Dippelius, whoſe name it has ſince generally born.

Animal oils thus rectified, are thin and limpid, of a ſubtle, penetrating, not diſagreeable ſmell and taſte. They are ſtrongly recommended as anodynes and antiſpaſmodics, in doſes from 15 to 30 drops. Hoffman reports, that they procure a calm and ſweet ſleep, which continues often for 20 hours, without being followed by any languor or debility, but rather leaving the patient more alert and cheerful than before: that they procure likewiſe a gentle ſweat, without increaſing the heat of the blood: that given to 20 drops or more, on an empty ſtomach, ſix hours before the acceſſion of an intermittent fever, they frequently remove the diſorder; and that they are likewiſe a very generous remedy in inveterate and chronical epilepſies, and in convulſive motions, eſpecially if given before the uſual time of the attack, and preceded by proper evacuations.

The empyreumatic oils of vegetables, rectified in the ſame manner by repeated diſtillations, ſuffer a like change with the animal; loſing their dark colour and offenſive ſmell, and becoming limpid, penetrating, and agreeable: in this ſtate they are ſuppoſed, like the animal oil, to be anodyne, antiſpaſmodic, and diaphoretic, or ſudorific. It is obſervable, that all the empyreumatic oils diſſolve in ſpirit of wine, and that the oftener they are rectified or rediſtilled, they diſſolve the more readily; a circumſtance in which they differ remarkably from eſſential oils, which, by repeated diſtillations, become more and more difficult of ſolution.

How far theſe preparations really poſſeſs the virtues that have been aſcribed to them, has not yet been ſufficiently determined by experience; the tedioufneſs and trouble of the rectification having prevented their coming into general uſe, or being often made. They are liable alſo to a more material inconvenience in regard to their medicinal uſe, precarioufneſs in their quality: for how perfectly ſoever they be rectified, they gradually loſe, in keeping, the qualities they had received from that proceſs, and return more and more towards their original fetidneſs.

OLEUM ET SAL SUCCINI.

Edinb.

Oil and ſalt of amber.

Take

Equal parts of amber reduced to a powder and of pure ſand.

Mix them, and put them into a glaſs retort, of which the mixture may fill one half: then adapt a large receiver, and diſtil in a ſand-furnace, with a fire gradually increaſed. At firſt a ſpirit will come over, with ſome yellow oil; then more yellow oil, along with a little ſalt; and upon raiſing the heat, more of the ſalt, with a reddiſh and black coloured oil.

When the diſtillation is finiſhed, empty the liquor out of the receiver; and having collected together the ſalt which adheres to the ſides, dry it by gentle preſſure between the folds of ſome ſpongy paper; then purify it by ſolution in warm water and by cryſtallization.

OLEUM

OLEUM SUCCINI RECTIFICATUM.

Edinb.

Distil the oil in a glass retort with six times its quantity of water till two thirds of the water have passed into the receiver; then separate the rectified oil from the water, and keep it for use in close shut vessels.

OLEUM SUCCINI RECTIFICATUM.

Lond.

Rectified oil of amber.

Take of

Oil of amber, one pound.

Distil three times.

The London College introduce their directions for the preparation of the sal and oleum succini at an after part of their work, under the head of sales. Here we may only observe, that they direct it to be prepared from the amber alone, without the intervention of sand. But this makes no essential difference in the article when prepared.

The Edinburgh College have rejected what was formerly called the spirit, as being nothing else than the watery parts, fraught with the inert impurities of the bitumen and a very small portion of the salt. In the distillation of amber, the fire must for some time be continued gentle, scarce exceeding the degree at which water boils, till the aqueous phlegm and thin oil have arisen; after which it is to be slowly increased. If the fire were urged hastily, the amber would swell up, and rise in its whole substance into the receiver, without undergoing the required decomposition or separation of its parts. When sand or similar intermedia are mixed with it, it is less subject to this rarefaction, and the fire may be raised somewhat more expeditiously; tho' this little advantage is perhaps more than counterbalanced by the room which the sand takes up in the retort.

Our chemists generally leave the receiver unluted, that it may be occasionally removed as the salt rises and concretes in the neck of the retort; from whence it is every now and then scraped out to prevent the oil from carrying it down into the receiver. When a gross thick oil begins to arise, and no more salt appears, the distillation is stopt, tho' it might, perhaps, be continued longer to advantage.

Mr Pott informs us (in a curious dissertation on the salt of amber, published in the ninth volume of the Memoirs of the Academy of Sciences of Berlin), that the Prussian workmen, who prepare large quantities of this salt for exportation, from cuttings and small pieces of amber, perform the distillation without any intermedium, and in an open fire: that sweeping out the salt from the neck of the retort being found too troublesome, they suffer the oil to carry it down into the receiver, and afterwards separate it by means of bibulous paper, which imbibes the oil, and leaves the salt dry; which paper is afterwards squeezed and distilled: that they continue the distillation till all that can be forced over has arisen, taking care only to catch the last thick oil in a separate receiver; and that from this they extract a considerable quantity of salt, by shaking it in a strong vessel with three or four fresh portions of hot water, and evaporating and crystallising the filtered waters.

The spirit of amber so called, is no more than a solution of a small por-

portion of the ſalt in phlegm or water; and therefore is very properly employed for diſſolving the ſalt in order to its cryſtallization.

The ſalt, freed from as much of the oil as ſpongy paper will imbibe, retains ſo much as to appear of a dark brown colour. Mr Pott ſays, the method he has found to ſucceed beſt, and with leaſt loſs, is, to diſſolve the ſalt in hot water, and put into the paper, through which the ſolution is to be filtered, a little cotton ſlightly moiſtened with oil of amber: this, he ſays, detains a good deal of the oil of the ſalt, and the ſolution paſſes through the more pure. The liquor being evaporated with a very gentle fire, as that of a water-bath, and ſet to ſhoot, the firſt cryſtals prove tranſparent, with a ſlight yellowiſh tinge; but thoſe which follow are brown, oily, and bitter, and are therefore to be further depurated in the ſame manner. The whole quantity of cryſtals amounts to about one-thirtieth of the weight of the crude amber employed. By ſublimation from ſea-ſalt, as directed in former editions of the Edinburgh Pharmacopœia, the ſalt is thought to be more perfectly and more expeditiouſly puriſied: Mr Pott objects to ſublimation, that a part of the ſalt is decompoſed by it, a coaly matter being left behind, even though the ſalt was previouſly purified by cryſtallization: it may be preſumed, however, that this coal proceeds rather from the burning of ſome remains of the oily matter, than from the decompoſition of any part of the true ſalt.

Pure ſalt of amber has a penetrating, ſubaſtringent acid, taſte. It diſſolves both in water and in rectified ſpirit; though not readily in either, and ſcarcely at all in the latter without the aſſiſtance of heat: of cold water in ſummer, it requires for its ſolution about twenty times its own weight; of boiling water, only about twice its weight. Expoſed in a glaſs veſſel, to a heat a little greater than that of boiling water, it firſt melts, then riſes in a white fume, and concretes again in the upper part of the glaſs into fine white flakes, leaving, unleſs it was perfectly pure, a little coaly matter behind. It effervesces with alkalies both fixed and volatile, and forms with them neutral compounds, much reſembling thoſe compoſed of the ſame alkalies and vegetable acids. Mixed with acid liquors, it makes no ſenſible commotion. Ground with fixed alkaline ſalts, it does not exhale any urinous odour. By theſe characters, it is conceived this ſalt may be readily diſtinguiſhed from all the other matters that have been mixed with, or vended for it. With regard to its virtue, it is accounted aperient, diuretic, and, on account of its retaining ſome portion of the oil, antihyſteric: Boerhaave gives it the character of *diureticorum et antihyſtericorum princeps.* Its great price, however, has prevented its coming much into uſe; and perhaps its real virtues are not equal to the opinion generally entertained of them.

The rectified oil has a ſtrong bituminous ſmell, and a pungent acrid taſte. Given in a doſe of ten or twelve drops, it heats, ſtimulates, and promotes the fluid ſecretions: It is chiefly celebrated in hyſterical diſorders, and in deficiencies of the uterine purgations. Sometimes it is uſed externally, in liniments for weak or paralytic limbs and rheumatic pains. This oil differs from all thoſe of the vegetable kingdom, and agrees with the mineral petrolea, in not being ſoluble, either in its rectified or unrectified ſtate, by ſpirit of wine, fixt alkaline lixivia, or volatile alkaline ſpirits; the oil, after long digeſtion or agitation, ſeparating

parating as freely as common oil does from water.

OLEUM VINI.

Lond.

Oil of wine.

Take of
Alcohol,
Vitriolic acid, of each one pint.

Mix them by degrees, and distil; taking care that no black foam passes into the receiver. Separate the oily part of the distilled liquor from the *volatile vitriolic acid.*—To the oily part add as much water of *pure kali* as is sufficient to take away the sulphureous smell: then distil the *æther* with a gentle heat. The oil of wine remains in the retort, swimming on the watery liquor, from which it is to be separated.

Some caution is requisite in mixing the two liquors, that the consequent heat and ebullition, which would not only dissipate a part of the mixture, but hazard the breaking of the vessel and the hurt of the operator, may be avoided The securest way is to add the vitriolic acid to the spirit of wine by a little at a time, waiting till the first addition be incorporated before another quantity be put in. By this, the ensuing heat is inconsiderable, and the mixture is effected without inconvenience.

OLEUM ABSINTHII DESTILLATUM.

Ross.

Essential oil of wormwood.

Let the fresh leaves of wormwood slightly dried be macerated with a sufficient quantity of water, and then subject to distillation; and let the oil which comes over be separated from the water which accompanies it.

This is one of the more ungrateful oils: it smells strongly of the wormwood, and contains its particular nauseous taste, but has little or nothing of its bitterness, this remaining entire in the decoction left after the distillation: its colour, when drawn from the fresh herb, is a dark green; from the dry, a brownish yellow. This oil is recommended by Hoffman as a mild anodyne in spasmodic contractions: for this purpose, he directs a dram of it to be dissolved in an ounce of rectified spirit of wine, and seven or eight drops of the mixture taken for a dose in any convenient vehicle. Boerhaave greatly commends in tertian fevers, a medicated liquor composed of about seven grains of this oil ground first with a dram of sugar, then with two drams of the salt of wormwood, and afterwards dissolved in six ounces of the distilled water of the same plant: two hours before the fit is expected, the patient is to bathe his feet and legs in warm water, and then to drink two ounces of the liquor every quarter of an hour till the two hours are expired: by this means, he says, all cases of this kind are generally cured with ease and safety, provided there be no scirrhosity or suppuration. The oil of wormwood is employed chiefly as a vermifuge; and for this purpose is sometimes both applied externally to the belly and taken internally: it is most conveniently exhibited in the form of pills, which it may be reduced into by mixing it with crumb of bread.

In the same manner with the oleum absinthii, the following oils, mentioned on the authority of the pharmacopœia Rossica, are also directed to be prepared.

OLEUM

OLEUM AURANTII CORTICUM.

Roſs.

Eſſential oil of orange-ſkins.

OLEUM CORTICUM LIMONUM.

Eſſence of lemons.

Of theſe eſſential oils, as exiſting in a ſeparate ſtate in the growing vegetable, we have already offered ſome obſervations. They are obtained in a very pure ſtate by diſtillation. They are now rejected from our pharmacopœias, being employed rather as perfumes than as medicines. This is particularly the eaſe with the eſſence of lemons, which is a pleaſant oil, of a fine ſmell, very near as agreeable as that of the freſh peel; it is one of the lighteſt and moſt volatile eſſential oils we have, perfectly limpid, and almoſt colourleſs. It is taken in doſes of two or three drops, as a cordial, in weakneſs of the ſtomach, &c. tho' more frequently uſed as a perfume. It gives a fine flavour to the officinal ſpiritus volatilis aromaticus of the Edinburgh college, or the ſpiritus ammoniæ compoſitus, as it is now ſtyled by that of the London: and it may be remarked, that it enters this formula of both colleges, although neither of them has given it a place among their preparations, probably as it is one of thoſe articles which the apothecary rarely prepares for himſelf. When ſoap is given in the form of pills, by the addition of a few drops of this oil they are thought to ſit more eaſily on the ſtomach.

OLEUM CARYOPHYLLORUM AROMATICORUM ESSENTIALE.

Roſſ.

Eſſential oil of cloves.

This oil is ſo ponderous as to ſink in water, and is not eaſily elevated in diſtillation: if the water which comes over be returned on the remaining cloves, and the diſtillation repeated, ſome more oil will generally be obtained, though much inferior in quality to the firſt. The oil of cloves is uſually deſcribed as being "in taſte exceſſively hot and "fiery, and of a gold yellow co-"lour." (*Boerh. proceſſ.*) Such indeed is the compoſition which we receive under this name from Holland; but the genuine oil of cloves is one of the milder oils: it may be taken with great ſafety (duly diluted) to the quantity of ten or twelve drops or more. Nor is its colour at all yellow, unleſs it has been long and careleſsly kept, or diſtilled by too violent a fire: when in perfection, it is limpid and colourleſs, of a pleaſant, moderately warm and pungent taſte, and a very agreeable ſmell, much reſembling that of the ſpice itſelf. The Dutch oil of cloves contains a large quantity of expreſſed oil, as evidently appears upon examining it by diſtillation. This, however, cannot be the addition to which it owes its acrimony. A ſmall proportion of a reſinous extract of cloves communicates to a large one of oil a deep colour, and a great degree of acrimony.

OLEUM CHAMOMILLI FLORUM.

Roſſ.

Eſſential oil of camomile.

An oil of camomile had formerly a place in our pharmacopœias made by infuſion of the recent plant, and its flowers in olive oil; and again ſeparating it by preſſure after impregnating it with the active parts of the plant by heat. This, however, was intended only for external application; but the eſſential oil is meant to be uſed internally.

It

It is a very pungent oil, of a strong not ungrateful smell, resembling that of the flowers: its colour is yellow, with a cast of greenish or brown. It is sometimes given in the dose of a few drops, as a carminative, in hysteric disorders, and likewise as a vermifuge: it may be conveniently made into pills with crumb of bread.

OLEUM CINNAMOMI CORTICIS.

Ross.

Oil of cinnamon.

This valuable oil is extremely hot and pungent, of a most agreeable flavour, like that of the cinnamon itself. In cold languid cases, and debilities of the nervous system, it is one of the most immediate cordials and restoratives. The dose is one, two, or three drops: which must always be carefully diluted by the mediation of sugar, &c; for so great is the pungency of this oil, that a single drop let fall upon the tongue, undiluted, produces, as Boerhaave observes, a gangrenous eschar. In the distillation of this oil, a smart fire is required; and the low head, with a channel round it, recommended for the distillation of the less volatile oils, is particularly necessary for this, which is one of the least volatile, and which is afforded by the spice in exceeding small quantity. The distilled water retains no small portion of the oil; but this oil being very ponderous, great part of it subsides from the water, on standing for two or three weeks in a cool place.

OLEUM SEMINUM FŒNICULI ESSENTIALE.

Ross.

Essential oil of fennel seeds.

The oil obtained from sweet fennel seeds is much more elegant and agreeable than that of the common fennel. It is one of the mildest of these preparations: it is nearly of the same degree of warmth with that of aniseeds; to which it is likewise similar in flavour, though far more grateful. It is given from two or three drops to ten or twelve, as a carminative, in cold indispositions of the stomach; and in some kinds of coughs for promoting expectoration.

OLEUM LIGNI RHODII ESSENTIALE.

Ross.

Essential oil of rhodium.

This oil is extremely odoriferous, and principally employed as a perfume in scenting pomatums, and the like. Custom has not as yet received any preparation of this elegant aromatic wood into internal use among us.

OLEUM DESTILLATUM MACIS.

Ross.

Essential oil of mace.

The essential oil of mace is moderately pungent, very volatile, and of a strong aromatic smell, like that of the spice itself. It is thin and limpid, of a pale yellowish colour, with a portion of thicker and darker coloured oil at the bottom. This oil taken internally to the extent of a few drops, is celebrated in vomiting, singullus, and colic pains; and in the same complaints it has also been advised to be applied externally to the umbilical region. It is, however, but rarely to be met with in the shops.

OLEUM MAJORANÆ ESSENTIALE.

Ross.

Essential oil of marjoram leaves.

This oil is very hot and penetrating, in flavour not near so agreeable

able as the marjoram itself; when in perfection, it is of a pale yellow colour; by long keeping, it turns reddish: if distilled with too great a heat, it arises of this colour at first. It is supposed by some to be peculiarly serviceable in relaxations, obstructions, and mucous discharges of the uterus: the dose is one or two drops.

OLEUM NUCIS MOSCHATÆ ESSENTIALE.

Ross.

Essential oil of nutmegs.

The essential oil of nutmegs possesses the flavour and aromatic virtues of the spice in an eminent degree. It is similar in quality to the oil of mace, but somewhat less grateful.

OLEUM RUTÆ ESSENTIALE.

Ross.

Essential oil of rue leaves.

The oil of rue has a very acrid taste, and a penetrating smell, resembling that of the herb, but rather more unpleasant. It is sometimes made use of in hysteric disorders and as an anthelmintic; and also in epilepsies proceeding from a relaxed state of the nerves.

Rue yields its oil very sparingly. The largest quantity is obtained from it when the flowers are ready to fall off, and the seeds begin to show themselves: suitable maceration, previous to the distillation, is here extremely necessary.

OLEUM DESTILLATUM SATUREIÆ.

Ross.

Essential oil of savory.

Savory yields on distillation a small quantity of essential oil, of great subtility and volatility; and it is unquestionably an active article, but among us it is not employed in medicine.

OLEUM DESTILLATUM TANACETI.

Ross.

Essential oil of tansy.

Tansy yields on distillation an oil of a greenish colour inclining to yellow. It smells strongly of the herb, and possess at least its aromatic property in a concentrated state.

OLEUM CERÆ.

Dan.

Oil of wax.

Melt yellow bees-wax with twice its quantity of sand, and distil in a retort placed in a sand-furnace. At first an acid liquor arises, and afterwards a thick oil, which sticks in the neck of the retort, unless it be heated by applying live coal. This may be rectified into a thin oil, by distilling it several times, without addition, in a sand-heat.

Boerhaave directs the wax, cut in pieces, to be put into the retort first, so as to fill one half of it; when as much sand may be poured thereon as will fill the remaining half. This is a neater, and much less troublesome way, than melting the wax, and mixing it with the sand before they are put into the retort. The author above-mentioned highly commends this oil against roughness and chaps of the skin, and other like purposes: the college of Strasburgh speak also of its being given internally, and say it is a powerful diuretic (*ingens diureticum*) in doses from two to four or more drops; but its disagreeable smell has prevented its coming into use among us.

The number of essential oils which have

have now a place in the London and Edinburgh pharmacopœias, and likewise in the foreign ones of modern date, is much less considerable than formerly; and perhaps those still retained afford a sufficient variety of the more active and useful oils. Most of the oils mentioned above, particularly those which have a place in the London and Edinburgh pharmacopœias, are prepared by our chemists in Britain, and are easily procurable in a tolerable degree of perfection: But the oils from the more expensive spiceries, though still introduced among the preparations in the foreign pharmacopœias, are, when employed among us, usually imported from abroad.

These are frequently so much adulterated, that it is not an easy matter to meet with such as are at all fit for use. Nor are these adulterations easily discoverable. The grosser abuses, indeed, may be readily detected: thus, if the oil be mixed with spirit of wine, it will turn milky on the addition of water; if with expressed oils, rectified spirit will dissolve the essential, and leave the other behind; if with oil of turpentine, on dipping a piece of paper in the mixture, and drying it with a gentle heat, the turpentine will be betrayed by its smell. But the more subtile artists have contrived other methods of sophistication, which elude all trials of this kind.

Some have looked upon the specific gravity of oils as a certain criterion of their genuineness; and accordingly we have given a table of the gravity of several. This, however, is not to be absolutely depended on: for the genuine oils, obtained from the same subjects, often differ in gravity as much as those drawn from different ones. Cinnamon and cloves, whose oils usually sink in water, yield, if slowly and warily distilled, an oil of great fragrancy, which is nevertheless specifically lighter than the aqueous fluid employed in the distillation of it; whilst, on the other hand, the last runnings of some of the lighter oils prove sometimes so ponderous as to sink in water.

As all essential oils agree in the general properties of solubility in spirit of wine, indissolubility in water, miscibility with water by the intervention of certain intermedia, volatility in the heat of boiling water, &c. it is plain that they may be variously mixed with each other, or the dearer sophisticated with the cheaper, without any possibility of discovering the abuse by any trials of this kind. And, indeed, it would not be of much advantage to the purchaser, if he had infallible criteria of the genuineness of every individual oil. It is of as much importance that they be *good*, as that they be *genuine*; for genuine oils, from inattentive distillation and long and careless keeping, are often weaker both in smell and taste than the common sophisticated ones.

The smell and taste seem to be the only certain tests of which the nature of the thing will admit. If a bark should have in every respect the appearance of good cinnamon, and should be proved indisputably to be the genuine bark of the cinnamon tree; yet if it want the cinnamon flavour, or has it but in a low degree, we reject it; and the case is the same with the oil. It is only from use and habit, or comparisons with specimens of known quality, that we can judge of the goodness, either of the drugs themselves or of their oils.

Most of the essential oils indeed, are too hot and pungent to be tasted with safety; and the smell of the

the ſubject is ſo much concentrated in them, that a ſmall variation in this reſpect is not eaſily diſtinguiſhed: but we can readily dilute them to any aſſignable degree. A drop of the oil may be diſſolved in ſpirit of wine, or received on a bit of ſugar, and diſſolved by that intermedium in water. The quantity of liquor which it thus impregnates with its flavour, or the degree of flavour which it communicates to a certain determinate quantity, will be the meaſure of the degree of goodneſs of the oil.

We ſhall here ſubjoin the reſult of ſome experiments, ſhowing *the quantity of eſſential oil obtained from different vegetables*, reduced into the form of a table. The firſt column contains the names of the reſpective vegetable ſubſtances; the ſecond, the quantity of each which was ſubmitted to the diſtillation; and the third, the quantity of oil obtained. In every other part of this book, where *pound* weights are mentioned, the Troy pound of twelve ounces is meant: but theſe experiments having been all made by a pound of ſixteen ounces, it was thought expedient to ſet down the matter of fact in the original weights; eſpecially as the ſeveral materials, in the large quantity commonly required for the diſtillation of oils, are purchaſed by weights of the ſame kind. But to remove any ambiguity which might ariſe from hence, and enable the reader to judge more readily of the yield, a reduction of the weights is given in the next column; which ſhows the number of parts of each of the ſubjects from which one part of oil was obtained. To each article is affixed the author's name from whom the experiment was taken. The different diſtillations of one ſubject, ſeveral of which are inſerted in the table, ſhow how variable the yield of oil is, and that the exotic ſpices, as well as our indigenous plants, do not always contain the ſame proportion of this active principle; though it muſt be obſerved, alſo, that part of the differences may probably ariſe from the operation itſelf having been more or leſs carefully performed.

TABLE

TABLE *of the Quantity of* ESSENTIAL OIL *obtained from different* VEGETABLES.

Agallochum wood -	10	lb.	yielded of essential oil	4	dra.	so that one part of oil was obtained from	320	*Hoff.*
Angelica root - -	1	lb.		1	dra.		128	*Carth.*
Aniseed - -	1	lb.		4	dra.		32	*Neum.*
Aniseed - -	3	lb.		1	oz.		48	*Lewis.*
Aniseed - -	4	lb.		1	oz.		64	*Lewis.*
Asafœtida - -	4	oz.		1	dra		32	*Neum.*
Calamus aromaticus -	50	lb.		2	oz.		185	*Hoff.*
Calamus aromaticus -	1	lb.		2	scr.		192	*Neum.*
Caraway seeds -	4	lb.		2	oz.		32	*Lewis.*
Caraway seeds -	2	lb.		9	dra.		28½	*Lewis.*
Caraway seeds -	1	cwt.		83	oz.		21½	*Lewis.*
Caroline thistle root -	1	lb.		2½	scr.		153	*Neum.*
Cardamom seeds -	1	oz.		1	scr.		24	*Neum.*
Carrot seeds - -	2	lb.		1½	dra.		171	*Lewis.*
Cascarilla - -	1	lb.		1	dra.		128	*Carth.*
Camomile flowers -	1	lb.		30	gra.		256	*Carth.*
Common camomile flowers	6	lb.		5	dra.		153	*Lewis.*
Wild camomile flowers	1	lb.		20	gra.		384	*Carth.*
Wild camomile flowers	6	lb.		2½	dra.		307	*Lewis.*
Chervil leaves, fresh	9	lb.		30	gra.		2304	*Neum.*
Cedar-wood - -	1	lb.		2	dra.		64	*Margg.*
Cinnamon - -	1	lb.		1	dra.		128	*Sala.*
Cinnamon -	1	lb.		2½	scr.		153	*Neum.*
Cinnamon - -	4	lb.		6	dra.		85⅓	*Lemery*
Cinnamon -	1	lb.		2	dra.		64	*Carth.*
Cinnamon - -	1	lb.		8	scr.		45½	*Carth.*
Clary seeds -	4	lb.		2	dra.		256	*Lewis.*
Clary in flower, fresh	130	lb.		3½	oz.		594	*Lewis.*
Cloves - -	1	lb.		1½	oz.		10⅔	*Teichm.*
Cloves - - -	1	lb.		2½	oz.		7⅑	*Carth.*
Cloves - -	2	lb.		5	oz.		6⅖	*Hoff.*
Copaiba balsam -	1	lb.		6	oz.		2⅔	*Ho.*
Copaiba balsam -	1	lb.		8	oz.		2	*Lewis.*
Cummin-seed - -	1	bush		21	oz.			*Lewis.*
Dictamnus Creticus -	1	lb.		30	gra.		256	*Lewis.*
Dill-seed -	4	lb.		2	oz.		32	*Lewis.*
Elecampane root -	2	lb.		3½	scr.		245	*Neum.*
Elemi - - -	1	lb.		1	oz.		16	*Neum.*
Fennel-seed, common	2	oz.		1	scr.		48	*Neum.*
Fennel-seed, sweet -	1	bush		18	oz.			*Lewis.*
Galangal root -	1	lb.		1	dra.		128	*Carth.*
Garlic root, fresh -	2	lb.		30	gra.		256	*Neum.*
Ginger - -	1	lb.		1	dra.		128	*Neum.*
Horseradish root, fresh	8	oz.		15	gra.		256	*Neum.*
Hyssop leaves - -	2	lb.		1½	dra.		237	*Neum.*

Hyſſop leaves	1	lb.	yielded of eſſential oil	1½	dra.	ſo that one part of oil was obtained from	85	*Carth.*
Hyſſop leaves	1	lb.		2	dra.		64	*Carth.*
Hyſſop leaves, freſh	2	cwt.		6	oz.		597	*Lewis.*
Hyſſop leaves, freſh	10	lb.		3	dra.		427	*Lewis.*
Hyſſop leaves, freſh	30	lb.		9	dra.		427	*Lewis.*
Juniper-berries	8	lb.		3	oz.		42⅔	*Hoff.*
Juniper-berries	1	lb.		3	dra.		42⅔	*Carth.*
Lavender in flower, freſh	48	lb.		12	oz.		64	*Lewis.*
Lavender in flower, freſh	30	lb.		6¾	oz.		72	*Lewis.*
Lavender in flower, freſh	13½	lb.		60	oz.		403	*Lewis.*
Lavender flowers, freſh	2	lb.		4	dra.		64	*Hoff.*
Lavender flowers, dried	4	lb.		2	oz.		32	*Lewis.*
Lavender flowers, dried	2	lb.		1	oz.		32	*Hoff.*
Lavender flowers, dried	4	lb.		3	oz.		21⅓	*Hoff.*
Broad leaved lavender flowers, dry	4	lb		1	oz.		64	*Hoff.*
	1	lb.		2	dra.		64	*Carth.*
Lovage-root	1	lb.		1	dra.		128	*Carth.*
Mace	1	lb.		5	dra.		25⅗	*Neum.*
Mace	1	lb.		6	dra.		21⅓	*Carth.*
Marjoram in flower, freſh	81	lb.		3¾	oz.		347	*Lewis.*
Marjoram in flower, freſh	13½	lb.		3½	dra.		493	*Lewis.*
Marjoram in flower, freſh	34	lb.		1½	oz.		362	*Lewis.*
Marjoram leaves, freſh	18½	lb.		4	dra.		592	*Lewis.*
Marjoram leaves, dried	4	lb.		1	oz.		64	*Hoff.*
Maſterwort root	1	lb.		30	gra.		256	*Neum.*
Milfoil flowers, dried	14	lb.		4	dra.		448	*Neum.*
Mint in flower, freſh	6	lb.		4½	dra.		177	*Neum.*
Mint leaves, dried	4	lb.		1½	oz.		42⅔	*Hoff.*
Peppermint, freſh	4	lb.		3	dra.		170⅔	*Hoff.*
Myrrh	1	lb.		2	dra.		64	*Hoff.*
Myrrh	1	lb.		3	dra.		42⅔	*Neum.*
Nutmegs	1	lb.		1	oz.		16	*Hoff.*
Nutmegs	1	lb.		1	oz.		16	*Geoff.*
Nutmegs	1	lb.		4	dra.		32	*Neum.*
Nutmegs	1	lb.		6	dra.		21⅓	*Sala.*
Nutmegs	1	lb.		5	dra.		25⅗	*Carth.*
Parſley ſeeds	2	lb.		1	dra.		256	*Carth.*
Parſley leaves, freſh	238	lb.		2	oz.		1904	*Carth.*
Parſnip ſeeds	8	lb		2	dra.		512	*Carth.*
Pennyroyal in flower, freſh	13	lb.		6	dra.		277	*Carth.*
Black pepper	2	lb.		6	dra.		42⅔	*Carth.*
Black pepper	1	lb.		2½	dra.		82	*Neum.*
Black pepper	1	lb.		4	ſcr.		96	*Carth.*
Black pepper	1	lb.		1	dra.		128	*Heiſter.*
Black pepper	6	lb.		3	dra.		256	*Geoff.*
Pimento	1	oz.		30	gra.		16	*Neum.*
Rhodium wood	1	lb.		3	dra.		42⅔	*Neum.*
Rhodium wood	1	lb.		2	dra.		64	*Sala.*
Rhodium wood	1	lb.		3	dra.		42⅔	*Sala.*
Rhodium wood	1	lb.		3	dra.		42⅔	*Carth.*

Rho-

Rhodium wood -	1 lb.	yielded of essential oil	4 dra.	so that one part of oil was obtained from	32	*Carth.*
Rosemary in flower -	1 cwt.		8 oz.		224	*Lewis.*
Rosemary leaves -	1 lb.		2 dra.		64	*Sala.*
Rosemary leaves -	1 lb.		3 dra.		$42\frac{2}{3}$	*Sala.*
Rosemary leaves -	3 lb.		$3\frac{1}{6}$ dra.		121	*Neum.*
Rosemary leaves -	1 lb.		1 dra.		128	*Carth.*
Rosemary leaves -	1 lb.		$1\frac{1}{2}$ dra.		82	*Carth.*
Rosemary leaves, fresh	70 lb.		5 oz.		224	*Lewis.*
Roses - -	100 lb.		4 dra.		3200	*Tachen.*
Roses - -	100 lb.		1 oz.		1600	*Homb.*
Roses - -	12 lb.		30 gra.		768	*Hoff.*
Rue - - -	10 lb.		2 dra.		640	*Hoff.*
Rue - -	10 lb.		4 dra.		320	*Hoff.*
Rue in flower -	4 lb.		1 dra.		512	*Hoff.*
Rue in flower	60 lb.		$2\frac{1}{2}$ oz.		507	*Hoff.*
Rue with the seeds -	72 lb.		3 oz.		384	*Hoff.*
Saffron - -	1 lb.		$1\frac{1}{2}$ dra.		$85\frac{1}{3}$	*Vogel.*
Sage leaves -	1 lb.		5 scr.		77	*Carth.*
Sage in flower, fresh -	34 lb.		$1\frac{1}{2}$ oz.		544	*Lewis.*
Sage of virtue in flower	27 lb.		6 dra.		576	*Lewis.*
Sage of virtue in flower	8 lb.		$1\frac{1}{2}$ dra.		681	*Lewis.*
Sassafras - -	6 lb.		$1\frac{3}{4}$ oz.		55	*Hoff.*
Sassafras - -	6 lb.		2 oz.		48	*Neum.*
Savin - - -	2 lb.		5 oz.		$6\frac{2}{5}$	*Hoff.*
Saunders, yellow -	1 lb.		2 dra.		64	*Carth.*
Smallage seeds -	1 lb		$2\frac{1}{2}$ scr.		154	*Neum.*
Stechas in flower, fresh	$5\frac{1}{2}$ lb.		2 dra.		368	*Lewis.*
Thyme in flower, fresh	2 cwt.		$5\frac{1}{2}$ oz.		652	*Lewis.*
Thyme in flower, dry	$3\frac{3}{4}$ lb.		$1\frac{1}{2}$ dra.		298	*Lewis.*
Lemon-thyme in flower, fresh	51 lb.		$1\frac{1}{4}$ oz.		653	*Lewis.*
Lemon-thyme in flower, fresh	98 lb.		$2\frac{1}{2}$ oz.		627	*Lewis.*
Lemon-thyme, dried a little	104 lb.		3 oz.		555	*Lewis.*
Wormwood leaves, dry	4 lb.		1 oz.		64	*Lewis.*
Wormwood leaves, dry	18 lb.		$1\frac{1}{2}$ oz.		192	*Lewis.*
Wormwood leaves, dry	25 lb.		$3\frac{1}{2}$ oz.		114	*Lewis.*
Zedoary - -	1 lb.		1 dra.		128	*Neum.*

CHAP. VII.

SALTS.

ACIDUM VITRIOLICUM DILUTUM.

Lond.

Diluted or weak vitriolic acid.

Take of
  Vitriolic acid, one ounce by weight;
  Diftilled water, eight ounces by weight.
Mix them by degrees.

ACIDUM VITRIOLICUM TENUE, vulgo SPIRITUS VITRIOLI TENUIS.

Edin.

Weak vitriolic acid, commonly called *weak fpirit of vitriol.*

Take of
  Vitriolic acid, one part;
  Water, feven parts.
Mix them.

In the former editions of our pharmacopœias, directions were given for the preparation of the vitriolic acid by the apothecary himfelf, under the heads of *Spiritus & Oleum Vitrioli*, *Spiritus Sulphuris per campanam*, &c.: But as it is now found that all thefe modes are expenfive, and that this acid may be furnifhed at a cheaper rate from the trading chemifts preparing it upon a large fcale, it is with propriety that both colleges have now rejected it from the preparations, and introduced it only into the lift of the materia medica.

When, however, it is of the degree of concentration there required, it can be employed for very few purpofes in medicine. The moft fimple form in which it can be advantageoufly employed internally, is that in which it is merely diluted with water: and it is highly proper that there fhould be fome fixed ftandard in which the acid in this ftate fhould be kept. It is, however, much to be regretted, that the London and Edinburgh colleges have not adopted the fame ftandard with refpect to ftrength: For in the one, the ftrong acid conftitutes an eighth; and in the other, only a ninth of the mixture. The former proportion, which is that of the Edinburgh college, we are inclined to prefer, as it gives exactly a dram of acid to the ounce; but the dilution by means of diftilled water, which is directed by the London, is preferable to fpring-water; which, even in its pureft ftate, is rarely free from impregnations in part affecting the acid.

The acid of vitriol is the moft ponderous of all the liquids we are acquainted with, and the moft powerful of the acids. If any other acid be united with a fixt alkaline

ſalt or earth, upon the addition of the vitriolic, ſuch acid will be diſlodged, and ariſe on applying a moderate heat, leaving the vitriolic in poſſeſſion of the alkali; though without this addition it would not yield to the moſt vehement fire. Mixt with water, it inſtantly creates great heat, inſomuch that glaſs veſſels are apt to crack from the mixture, unleſs it be very ſlowly performed: expoſed to the air, it imbibes moiſture; and ſoon acquires a remarkable increaſe of weight. In medicine, it is employed chiefly as ſubſervient to other preparations: it is likewiſe not unfrequently mixed with juleps and the like, in ſuch quantity as will be ſufficient to give the liquor an agreeable tartneſs with the intentions of a cooling antiſeptic, reſtringent, and ſtomachic.

It is particularly uſeful for allaying inordinate actions of the ſtomach, when under the form of ſingultus or vomiting; but its medical properties have already been mentioned under the article Acidum *Vitriolicum* in the materia medica.

ACIDUM NITROSUM
Lond.
Nitrous acid.

Take of
Puriſied nitre, by weight, ſixty ounces;
Vitriolic acid, by weight, twenty-nine ounces.
Mix and diſtil.

The ſpecific gravity of this is to the weight of diſtilled water as 1,550 to 1,000.

ACIDUM NITROSUM, vulgo SPIRITUS NITRI GLAUBERI.
Edin.
Nitrous acid, commonly called *Glauber's ſpirit of nitre.*

Take of
Pureſt nitre, bruiſed, two pounds;
Vitriolic acid, one pound.
Having put the nitre into a glaſs retort, pour on it the ſpirit; then diſtil in a ſand-heat, gradually increaſed, till the iron ſand-pot becomes of a dull red colour.

Here the vitriolic acid expels that of the nitre, in red corroſive vapours, which begin to iſſue immediately upon mixture; and which the operator ought cautiouſly to avoid. A pound of acid of vitriol is ſufficient to expel all the acid from about two pounds of nitre, not from more: ſome direct equal parts of the two. The ſpirit, in either caſe, is in quality the ſame; the difference, in this reſpect, affecting only the reſiduum. If two parts of nitre be taken to one of acid of vitriol, the remaining alkaline baſis of the nitre is completely ſaturated with the vitriolic acid; and the reſult is a neutral ſalt, the ſame with vitriolated tartar, as we ſhall ſee hereafter. If more nitre be uſed, a part of the nitre in ſubſtance will remain blended with this vitriolated ſalt: if leſs nitre, it cannot afford alkali enough to ſaturate the vitriolic acid, and the reſiduum will not be a neutral ſalt, but a very acid one. In this laſt caſe there is one conveniency; the acid ſalt being readily diſſoluble in water, ſo as to be got out without breaking the retort, which the others are not.

ACIDUM NITROSUM DILUTUM.
Lond.
Diluted or weak nitrous acid.

Take of
Nitrous acid,
Diſtilled water, each one pound.
Mix them.

ACIDUM NITROSUM TENUE.

Edin.

Weak nitrous acid.

Take of
Nitrous acid,
Water, equal weights.
Mix them, taking care to avoid the noxious vapours.

In the old editions both of the London and Edinburgh pharmacopœias, directions were given for the preparation of aquafortis simplex and duplex; but these were no more than different forms of preparing an impure nitrous acid, unfit for medical purposes. They are therefore, with propriety, superseded by the more simple formulæ of acidum nitrosum, and acidum nitrosum dilutum, or tenue, mentioned above. In making the diluted acid, distilled water is preferable to common water.

The vapours separated during the mixing of nitrous acid and water, are the permanently elastic fluid called *nitrous acid air*, which is deleterious to animal life.

The acid of nitre is next in strength to the vitriolic, and dislodges all others from alkaline salts or earths. It differs from all the other acids in deflagrating with inflammable matters: if a solution of any inflammable substance, as hartshorn, &c. in this acid be set to evaporate, as soon as the matter approaches to dryness, a violent detonation ensues. The chief use of this acid is as a menstruum for certain minerals, and as the basis of some particular preparations to be mentioned hereafter. It has been given likewise, diluted with any convenient vehicle, as a diuretic, from ten to fifty drops.

ACIDUM MURIATICUM.

Lond.

Muriatic acid.

Take of
Dry sea-salt, ten pounds;
Vitriolic acid, six pounds;
Water, five pounds.
Add, by degrees, the vitriolic acid, first mixed with the water, to the salt; then distil.

The specific gravity of this is to that of distilled water as 1,170 to 1,000.

ACIDUM MURIATICUM, vulgo SPIRITUS SALIS MARINI.

Edin.

Muriatic acid, commonly called *Spirit of sea-salt.*

Take of
Sea-salt, two pounds;
Vitriolic acid,
Water, each one pound.
Let the salt be first put into a pot, and brought to a red heat, that the oily impurities may be consumed; then commit it to the retort. Next mix the acid with the water, and when the mixture has cooled, pour it upon the salt. Lastly, distil in sand with a middling heat, as long as any acid comes over.

The marine, or muriatic acid, arises, not in red fumes like the nitrous, but in white ones. The addition of water is more necessary here than in the foregoing process; the marine vapours being so volatile, as scarcely to condense without some adventitious humidity. The acid of vitriol is most conveniently mixed with the water in an earthen or stone-ware vessel: for unless the mixture be made exceedingly slowly, it grows so hot as to endanger breaking a glass one.

The spirit of sea-salt is the weakest of the mineral acids, but stronger than any of the vegetable: It requires

quires a greater fire to diſtil it than that of nitre, yet is more readily diſſipated by the action of the air. It is uſed chiefly as a menſtruum for the making of other preparations; ſometimes, likewiſe, it is given, properly diluted, as an antiphlogiſtic, aperient, and diuretic, from ten to ſixty or ſeventy drops.

ACETUM DISTILLATUM.

Lond.

Diſtilled vinegar.

Take of
Vinegar five pints.
Diſtil with a gentle fire, in glaſs veſſels, ſo long as the drops fall free from empyreuma.

Edin.

Let eight pounds of vinegar be diſtilled in glaſs veſſels with a gentle heat. Let the two firſt pounds that come over be thrown away as containing too much water; let four pounds next following be reſerved as the diſtilled vinegar. What remains is a ſtill ſtronger acid, but too much acted on by the heat.

This proceſs may be performed either in a common ſtill with its head, or in a retort. The better kinds of wine-vinegar ſhould be made uſe of: thoſe prepared from malt liquors, however fine and clear they may ſeem to be, contain a large quantity of a viſcous ſubſtance, as appears from the ſlimineſs and ropineſs to which they are very much ſubject: this not only hinders the acid parts from ariſing freely, but likewiſe is apt to make the vinegar boil over into the recipient, and at the ſame time diſpoſes it to receive a diſagreeable impreſſion from the fire. And indeed, with the beſt kind of vinegar, if the diſtillation be carried on to any great length, it is extremely difficult to avoid an empyreuma. The beſt method of preventing this inconvenience is, if a retort be made uſe of, to place the ſand but a little way up its ſides, and when ſomewhat more than half the liquor is come over, to pour on the remainder a quantity of freſh vinegar equal to that of the liquor drawn off. This may be repeated three or four times; the vinegar ſupplied at each time being previouſly made hot. The addition of cold liquor would not only prolong the operation, but alſo endanger breaking the retort. If the common ſtill be employed, it ſhould likewiſe be occaſionally ſupplied with freſh vinegar in proportion as the ſpirit runs off; and this continued until the proceſs can be conveniently carried no farther: The diſtilled ſpirit muſt be rectified by a ſecond diſtillation in a retort or glaſs alembic; for although the head and receiver be of glaſs or ſtone ware, the acid will contract a metallic taint from the pewter worm.

The reſiduum of this proceſs is commonly thrown away as uſeleſs, although, if ſkilfully managed, it might be made to turn to good account; the moſt acid parts of the vinegar ſtill remaining in it. Mixed with about three times its weight of fine dry ſand, and committed to diſtillation in a retort, with a well-regulated fire, it yields an exceeding ſtrong acid ſpirit, together with an empyreumatic oil, which taints the ſpirit with a diſagreeable odour. This acid is nevertheleſs, without any rectification, better for ſome purpoſes (as a little of it will go a great way) than the pure ſpirit; particularly for making the ſal diuretieus or kali acetatum of the London college; for there the oily matter, on which its ill flavour depends, is burnt out by the calcination.

The ſpirit of vinegar is a purer and

and ſtronger acid than vinegar itſelf, with which it agrees in other reſpects. The medical virtues of theſe liquors may be ſeen in the Materia Medica, under the article ACETUM, page 116 Their principal difference from the mineral acids conſiſts in their being milder, leſs ſtimulating, leſs diſpoſed to affect the kidneys and promote the urinary ſecretions, or to coagulate the animal juices. The matter left after the diſtillation in glaſs-veſſels, though not uſed in medicine, would doubtleſs prove a ſerviceable detergent ſaponaceous acid; and in this light it ſtands recommended by Boerhaave.

ACETUM CONCENTRATUM.

Suec.

Concentrated vinegar.

Let white-wine vinegar be frozen in a wooden veſſel in cold winter weather; and let the fluid in the middle ſeparated from the ice be preſerved for uſe. This may be conſidered as ſufficiently ſtrong, if one dram of it be capable of ſaturating a ſcruple of the fixed vegetable alkali.

THIS is a very eaſy mode for obtaining the acid of vinegar in a concentrated ſtate, and freed from a conſiderable proportion of its water. But at the ſame time we do not thus obtain the acid either ſo much concentrated, or in ſo pure a ſtate as by the following proceſs.

ACIDUM ACETOSUM.

Lond.

Acetous acid.

Take of

Verdegris, in coarſe powder, two pounds.

Dry it perfectly by means of a water-bath ſaturated with ſea-ſalt; then diſtil it in a ſand-bath, and after that diſtil the liquor.

Its ſpecific gravity is to that of diſtilled water as 1,050 to 1,000.

BY this proceſs it may be readily concluded that we obtain the acetous acid in its moſt concentrated ſtate, and with the leaſt admixture of water. And after the re-diſtillation, it may alſo be ſuppoſed that it will be free from all mixture of the copper. But the internal uſe of it has been objected to by ſome, on the ſuppoſition that it may ſtill retain a portion of the metal; and hitherto it has, we believe, been but little employed.

ACIDUM TARTARI CRYSTALLISATUM.

Suec.

Cryſtalliſed acid of tartar.

Take of

Prepared chalk, frequently waſhed with warm water, two pounds;

Spring water, thirty two pounds.

After ſlight boiling, by degrees add of cream of tartar ſeven pounds, or as much as is ſufficient for ſaturation. Removing the veſſel from the fire, let it ſtand for half an hour, then cautiouſly pour the clear liquor on the ſurface into a glaſs veſſel. Waſh the reſiduum or tartarous ſelenites by pouring water upon it three or four times. To this reſiduum afterwards add of weak vitriolic acid ſixteen pounds, let it be digeſted for a day, frequently agitating it with a wooden ſpatula. After this pour the acid liquor into a glaſs veſſel: But with the reſiduum mix ſixteen pounds of ſpring water: Strain it through paper, and again pour water upon the reſiduum till it become inſipid. Let the

the acid liquors mixed together in a glaſs veſſel be boiled to the conſiſtence of a thin ſyrup; which being ſtrained, muſt be ſet apart for the formation of cryſtals. Let the cryſtals collected after repeated diſtillations be dried upon paper, and afterwards kept in a dry place.

If before cryſtallization a little of the inſpiſſated acid liquor be diluted with four times its quantity of pure water, and a few drops of vinegar of litharge be put into it, a white ſediment will immediately be depoſited. If a few drops of the diluted nitrous acid be then added, the mixture will become limpid if the tartarous liquor be pure and entirely free from the vitriolic acid; but if it be not, it will become white. This fault, however, may be corrected, if the acid of tartar be diluted with ſix pounds of water and a few ounces of the tartarous ſelenites added to it. After this it may be digeſted, ſtrained, and cryſtallized.

By this proceſs, the acid of tartar may be obtained in a pure ſolid form. It would, however, be perhaps an improvement of the proceſs, if quicklime were employed in place of chalk. For Dr Black has found that quicklime abſorbs the whole of the tartarous acid, and then the ſupernatant liquor contains only the alkaline part of the tartar; whereas when chalk is employed, it contains a ſolution of ſoluble tartar, the chalk obtaining only the ſuperabundant acid. By this method then a greater quantity of tartarous acid might be obtained from the ſediment. The tartarous acid has not hitherto been much employed in its pure ſtate. But beſides being uſeful for ſome purpoſes in medicine, for which the cream of tartar is at preſent in uſe, and where that ſuperſaturated neutral may be leſs proper, there is alſo reaſon to ſuppoſe, that from the employment of the pure acid, we ſhould arrive at more certainty in the preparation of the antimonium tartarizatum, or tartar emetic, than by employing the cream of tartar, the proportion of acid in which varies very much from different circumſtances. The pure acid of tartar might alſo probably be employed with advantage for bringing other metallic ſubſtances to a ſaline ſtate.

ACIDUM TARTARI DESTILLATUM.

Suec.

Diſtilled acid of tartar.

Let pounded crude tartar be put into a tubulated earthen or iron retort till it fills about two-thirds of it, and let diſtillation be performed by gradually increaſing the heat. Into the recipient, which ſhould be very large, an acid liquor will paſs over together with the oil; which being ſeparated from the oil, muſt again be diſtilled from a glaſs retort.

If the reſiduum contained in the earthen or iron retort be diluted with water ſtrained through paper and boiled to dryneſs, it gives what is called the alkali of tartar. If this do not appear white, it may become ſuch by burning, ſolution, ſtraining, and evaporation.

This is another mode of obtaining both the acid and alkali of tartar in a pretty pure ſtate, and, as well as the former, it is not unworthy of being adopted into our pharmacopœias.

AQUA

AQUA AERIS FIXI.

Rofs.

Aërated water.

Let fpring water be faturated with the fixed air, or aërial acid, arifing from a folution of chalk in vitriolic acid, or in any fimilar acid. Water may alfo be impregnated by the fixed air arifing from fermenting liquors.

The aërial acid, of which we have already had occafion to make fome obfervations, (vide page 65), befides the great influence which it has as affecting different faline bodies into the compofition of which it enters, is alfo frequently employed in medicine, with a view to its own action on the human body. The late ingenious Dr Dobfon in his Commentary on Fixed Air, has pointed out many purpofes for which it may be ufefully employed, and feveral different forms under which it may be ufed. But there is no form under which it is at prefent more frequently had recourfe to than that of aërated or mephitic water, as it has often been called. And although not yet received either into the London or Edinburgh pharmacopœias, it is daily employed in practice, and is we think juftly intitled to a place among the faline preparations.

The moft convenient mode of impregnating water with the aërial acid, and thus having it in our power to exhibit that acid as it were in a diluted ftate, is by means of a well known and fufficiently fimple apparatus, contrived by that ingenious philofopher Dr Nooth. Such a machine ought, we think, to be kept in every fhop for the more ready preparation of this fluid.

Water properly impregnated with the aërial acid, has an agreeable acidulous tafte. It is often employed with great advantage in the way of common drink, by thofe who are fubjected to ftomach ailments, and by calculous patients. But, befides this, it furnifhes an excellent vehicle for the exhibition of many other medicines.

Befides the fimple aërated water, the Pharmacopœia Roffica contains alfo an aqua aëris fixi martialis, or ferruginous aërated water. This is prepared by fufpending iron wires in that water till the water be fully faturated with the metal. And in confequence of this acid, fimple water becomes a menftruum both for different metallic and earthy fubftances. But water in this ftate may be confidered rather as fitted for thofe purpofes for which chalybeates are in ufe, than as a preparation of the aërial acid.

SAL ET OLEUM SUCCINI.

Lond.

Salt and oil of amber.

Take of

Amber, two pounds.

Diftil in a heat of fand, gradually augmented: an acid liquor, oil, and falt fouled with oil, will afcend.

Of this article we have already offered fome obfervations under the head of Effential Oils. The directions here given by the London college differ chiefly from thofe of the Edinburgh college formerly mentioned, in no fand being employed: But when care is taken that the fand be pure, it can give no improper impregnation to the medicine, and may prevent fome inconveniences in the diftillation, particularly that of the amber rifing in fubftance into the receiver.

SAL SUCCINI PURIFICATUS.

Lond.

Purified falt of amber.

Take

Take of
Salt of amber, half a pound;
Diſtilled water, one pint.
Boil the ſalt in the diſtilled water, and ſet aſide the ſolution to cryſtallize.

Salt of amber when perfectly pure, is white, of an acid taſte, and not ungrateful. It requires, for its ſolution, of cold water, in ſummer, about twenty times its weight; of boiling water about twice its weight; it is ſcarcely ſoluble in rectified ſpirit without the aſſiſtance of heat.

It is given as a cooling diuretic in doſes of a few grains, and alſo in hyſterical complaints.

FLORES BENZOËS.

Edinb.

Flowers of Benzoine.

Take of
Benzoine, in powder, one pound.
Put it into an earthen pot, placed in ſand; and, with a ſlow fire, ſublime the flowers into a paper cone fitted to the pot.
If the flowers be of a yellow colour, mix them with white clay, and ſublime them a ſecond time.

FLORES BENZOINI.

Edinb.

Put any quantity of powdered benzoine into an earthen pot, to which, after filling it with a large conical paper cap, apply a gentle heat that the flowers may ſublime. If the flowers be impregnated with oil, let them be purified by ſolution in warm water and cryſtallization.

Benzoine, expoſed in a retort to a gentle fire, melts and ſends up into the neck white, ſhining cryſtalline flowers, which are followed by an oily ſubſtance. Theſe flowers, which are at preſent conſidered as a peculiar acid, are by ſome termed *acidum benzoicum.* On raiſing the heat a little (a recipient being applied to the neck of the retort) a thin yellowiſh oil comes over, intermingled with an acid liquor, and afterwards a thick butyraceous ſubſtance: this laſt, liquefied in boiling water, gives out to it a conſiderable quantity of ſaline matter (ſeparable by filtration and proper exhalation), which appears in all reſpects ſimilar to the flowers.

It appears, therefore, that the whole quantity of flowers which benzoine is capable of yielding, cannot be obtained by the above proceſſes, ſince a conſiderable portion ariſes after the time of their being diſcontinued. The greateſt part of the flowers ariſe with a leſs degree of heat than what is neceſſary to elevate the oil; but if the operation be haſtily conducted, or if the fire be not exceedingly gentle, the oil will ariſe along with the flowers, and render them foul. Hence in the way of trade, it is extremely difficult to prepare them of the requiſite whiteneſs and purity; the heat which becomes neceſſary, when large quantities of the benzoine are employed, being ſo great as to force over ſome of the oil along with them.

In order, therefore, to obtain theſe flowers in perfection, only a ſmall quantity of benzoine ſhould be put into the veſſel at a time; and that this may not be any impediment to the requiſite diſpatch, a number of ſhallow, flat-bottomed, earthen diſhes may be employed, each fitted with another veſſel inverted over it, or a paper cone. With theſe you may fill a ſand furnace; having freſh diſhes charged in readineſs to replace thoſe in the furnace, as ſoon as the proceſs ſhall appear finiſhed in them: the reſiduum of the benzoine

zoinc fhould be fcraped out of each of the veffels before a frefh parcel be put in.

Thefe flowers, when made in perfection, have an agreeable tafte and fragrant fmell. They totally diffolve in fpirit of wine; and likewife, by the affiftance of heat, in water; but feparate again from the latter upon the liquor's growing cold, fhooting into faline fpicula, which unite together into irregular maffes. By the mediation of fugar they remain fufpended in cold water, and thus form an elegant balfamic fyrup. Some have held them in great efteem as pectoral and fudorific, in the dofe of half a fcruple or more: but the prefent practice rarely makes ufe of them, on account of the offenfive oil which, as ufually prepared, they are tainted with, and from which a frefh fublimation from tobacco-pipe clay, as formerly practifed, did not free them fo effectually as might be wifhed. The obfervations above related, point out the method of depurating them more perfectly, viz. by folution, filtration, and cryftallization.

They enter the compofition of the paregoric elixir, or tinctura opii camphorata, as it is now called.

SAL TARTARI.

Edinb.

Salt of tartar.

Take of

Tartar, what quantity you pleafe.

Roll it up in a piece of moift bibulous paper, or put it into a crucible, and furrounding it with live coals, burn it into a coal; next, having beat this coal, calcine it in an open crucible with a middling heat, taking care that it do not melt, and continue the calcination till the coal becomes of a white, or at leaft of an afh colour. Then diffolve it in warm water; ftrain the liquor through a cloth, and evaporate it in a clean iron veffel; diligently ftirring it towards the end of the procefs with an iron fpatula, to prevent it from ticking to the bottom of the veffel. A very white falt will remain, which is to be left a little longer on the fire, till the bottom of the veffel becomes almoft red. Laftly, when the falt is grown cold, let it be put up in glafs veffels well fhut.

Native tartar is a faline fubftance, compounded of an acid, of a fixt alkali, and of oily, vifcous, and colouring matter. The purpofe of the above procefs is, to free it from every other matter but the fixed alkali. From the miftaken notion, that tartar was effentially an acid mixed only with impurities, it has been generally fuppofed that the effect of this operation was the converfion of an acid into an alkali by means of heat. But, fince Mr Scheele has difcovered, that the proper matter of tartar, freed from the oily and colouring parts, is really a falt compounded of an acid, which is predominant, and a fixt alkali, we have no farther need of fuch an obfcure theory. The acid of the tartar by this procefs is diffipated by means of the heat; and the oily, vifcous, and colouring matters, are partly diffipated, and partly brought to the ftate of infoluble earthy matter, eafily feparable by the future lixiviation from the alkali, wherewith they were loofely combined. But by the laft of thefe proceffes, fomething farther is carried on than the feparation of the more palpable foreign matters. By allowing the falt, freed from the water of the lixivium, to remain upon the fire till the bottom of the veffel become almoft red, any oily matter that may ftill be prefent feems to be decompofed by the united action of the heat

heat and fixt alkali forming with a part of the latter, by their reciprocal action, a volatile alkaline salt, forthwith discharged in elastic vapours. Besides the complete discharge of the above principles, the remaining fixed alkali also suffers a considerable loss of its fixed air, or aërial acid; with which, when fully saturated, it forms the imperfect neutral salt, denominated by Dr Black *mild fixed alkali:* on this account it is somewhat caustic, considerably deliquescent, and in proportion to its possessing these properties more or less, it more or less nearly approaches to the state of pure alkali. It is not, however, so effectually deprived of fixed air as to be sufficiently caustic for a number of purposes. Where causticity is not required, the salt thus purified is abundantly fit for most pharmaceutical purposes: but as native tartar generally contains small portions of neutral salts besides the foreign matters already noticed, it is necessary, if we wish to have a very pure alkali for nice operations, to employ crystallization, and other means beside the process here directed.

The white and red sorts of tartar are equally fit for the purpose of making fixt salt; the only difference is, that the white affords a somewhat larger quantity than the other; from sixteen ounces of this sort, upwards of four ounces of fixt alkaline salt may be obtained. The use of the paper is to prevent the smaller pieces of the tartar from dropping down into the ash-hole, through the interstices of the coals, upon first injecting it into the furnace.

The calcination of the salt (if the tartar was sufficiently burnt at first) does not increase its strength so much as is supposed: nor is the greenish or blue colour any certain mark either of its strength, or of its having been, as was formerly supposed, long exposed to a vehement fire: for if the crucible be perfectly clean, close covered, and has stood the fire without cracking, the salt will turn out white, though kept melted and reverberated ever so long; whilst, on the other hand, a slight crack happening in the crucible, or a spark of coal falling in, shall in a few minutes give the salt the colour admired. The colour in effect, is a mark rather of its containing some inflammable matter, than of its strength.

The vegetable alkali prepared from tartar has now no place in the London Pharmacopœia, or at least it is included under the following article.

KALI PRÆPARATUM.

Lond.

Prepared kali.

Take of
Pot-ash, two pounds;
Boiling distilled water, three pints.

Dissolve and filtre through paper; evaporate the liquor till a pellicle appears on the surface; then set it aside for a night, that the neutral salts may crystallize; after which pour out the liquor, and boil away the whole of the water, constantly stirring, lest any salt should adhere to the pot.

In like manner is purified impure kali from the ashes of any kind of vegetable.

The same salt may be prepared from tartar burnt till it becomes of an ash colour.

SAL ALCALINUS fixus VEGETABILIS PURIFICATUS.

Edinb.

Fixed vegetable alkaline salt purified.

Let the fixed alkaline salt, called in Eng-

Engliſh *pearl-aſhes*, be put into a crucible, and brought to a ſomewhat red heat, that the oily impurities, if there be any, may be conſumed; then having beat and agitated it with an equal weight of water, let them be well mixed. After the feces have ſubſided, pour the ley into a very clean iron pot, and boil to dryneſs, diligently ſtirring the ſalt towards the end of the proceſs, to prevent its ſticking to the veſſel.

This ſalt, if it hath been rightly purified, tho' it be very dry, if beat with an equal weight of water, can be diſſolved into a liquor void of colour or ſmell.

The potaſh uſed in commerce is an alkali mixed with a conſiderable quantity of remaining charcoal, ſulphur, vitriolated tartar, and oily matter. In the large manufactories, the alkaline part is indeed conſiderably freed from theſe impurities by mixing the weed-aſhes with water, evaporating the clear ley, and burning the remaining matter in an oven; but beſides that this proceſs is inſufficient for the complete ſeparation of the impurities, it alſo ſuperadds a quantity of ſtony matter, giving to the alkali the *pearl* appearance (whence its name), and rendering it altogether unfit for pharmaceutical purpoſes. By the proceſſes here directed, the alkali is effectually freed from all theſe heterogeneous matters, excepting perhaps a ſmall proportion of vitriolated tartar, or other neutral ſalt, which may very generally be neglected. As in this proceſs no after calcination is directed, it is probable that the fixed alkali thus prepared will not prove ſo cauſtic, that is to ſay, is not ſo conſiderably deprived of fixed air, as in the proceſs directed for preparing the ſal tartari. It is, however, ſufficiently pure for moſt purpoſes; and we conſider the above proceſs as the moſt convenient and cheap method of obtaining the vegetable fixed alkali in its mild ſtate.

The purified vegetable alkali, has been known in our pharmacopœias under the different names of *ſal abſinthii*, *ſal tartari*, &c. But all theſe being now known to be at bottom the ſame, the terms, as leading to error, have been with juſtice expunged; and it has been a deſideratum to diſcover ſome ſhort name equally applicable to the whole. The term employed by the Edinburgh college is too long, being rather a deſcription than a name. But to that employed by the London college, *Kali*, objections have alſo been made. And it muſt be allowed, that beſides the inconveniences which ariſes from its being an indeclinable word, the foſſil alkali is equally intitled to the ſame appellation. Beſides this, as a conſiderable portion of the foſſil alkali is prepared from burning a vegetable growing on the ſea coaſts, which has the name of *kali*, the kali ſpinoſum of Linnæus, ſome apparent contradiction and ambiguity may from thence ariſe. And the London college would perhaps have done better, if they had adopted the term *Potaſſa*; a name which has been appropriated to this ſalt by ſome of the moſt eminent modern chemiſts.

The purified potaſſa is frequently employed in medicine, in conjunction with other articles, particularly for the formation of ſaline neutral draughts and mixtures: But it is uſed alſo by itſelf in doſes from three or four grains to fifteen or twenty; and it frequently operates as a powerful diuretic, particularly when aided by proper dilution.

AQUA

AQUA KALI.

Lond.

Water of kali.

Take of
Kali, one pound.
Set it by in a moiſt place till it be diſſolved, and then ſtrain it.

This article had a place in former editions of our pharmacopœias under the titles of *lixivium tartari*, *liquamen ſalis tartaris*, *oleum tartari per deliquium*, &c. It is, however, to be conſidered as a mere watery ſolution of the mild vegetable alkali, formed by its attracting moiſture from the air; and therefore it is with propriety ſtyled the *aqua kali*.

The ſolutions of fixt alkaline ſalts, effected by expoſing them to a moiſt air, are generally looked upon as being purer than thoſe made by applying water directly: for though the ſalt be repeatedly diſſolved in water, filtered, and exſiccated; yet on being liquefied by the humidity of the air, it will ſtill depoſite a portion of earthy matter: but it muſt be obſerved, that the exſiccated ſalt leaves always an earthy matter on being diſſolved in water, as well as on being deliquated in the air. Whether it leaves more in the one way than in the other, is not determined with preciſion. The deliquated lixivium is ſaid to contain nearly one part of alkaline ſalt to three of an aqueous fluid. It is indifferent, in regard to the lixivium itſelf, whether the white aſhes of tartar, or the ſalt extracted from them, be uſed; but as the aſhes leave a much greater quantity of earth, the ſeparation of the ley proves more troubleſome.

The aqua kali of the preſent edition of the London pharmacopœia then, may be conſidered as an improvement of the lixivium tartari of their former edition. But the Edinburgh college conſidering this ſolution as being in no reſpect different from that made by pure water, have entirely rejected this preparation from their pharmacopœia, and probably with juſtice.

AQUA KALI PURI.

Lond.

Water of pure kali.

Take of
Kali, four pounds;
Quick lime, ſix pounds;
Diſtilled water, four gallons.
Put four pints of water to the lime, and let them ſtand together for an hour; after which, add the kali and the reſt of the water; then boil for a quarter of an hour: ſuffer the liquor to cool and ſtrain. A pint of this liquor ought to weigh ſixteen ounces. If the liquor effervefces with any acid, add more lime.

A preparation ſimilar to this had a place in the former edition of the London Pharmacopœia, under the title of *lixivium ſaponarium*. Quicklime, by depriving the mild alkali of its aërial acid, renders it cauſtic: hence this ley is much more acrimonious, and acts more powerfully as a menſtruum of oils, fats, &c. than a ſolution of the potaſſa alone. The lime ſhould be uſed freſh from the kiln; by long keeping, even in cloſe veſſels, it loſes of its ſtrength: ſuch ſhould be made choice of as is thoroughly burnt or calcined, which may be known by its comparative lightneſs.

All the inſtruments employed in this proceſs, ſhould be either of wood, earthen ware, or glaſs: the common metallic ones would be corroded by the ley, ſo as either to diſcolour or communicate diſagreeable qualities to it. If it ſhould be needful to filtre or ſtrain the liquor, care muſt be taken that the filtre or ſtrainer be of vegetable matter: woollen, ſilk, and that ſort of filter-

ing

ing paper which is made of animal ſubſtances, are quickly corroded and diſſolved by it.

The liquor is moſt conveniently weighed in a narrow-necked glaſs bottle, of ſuch a ſize, that the meaſure of a wine pint may ariſe ſome height into its neck; the place to which it reaches being marked with a diamond. A pint of the common leys of our ſoapmakers weighs more than ſixteen ounces: it has been found that their ſoap-ley will be reduced to the ſtandard here propoſed, by mixing it with ſomething leſs than an equal meaſure of water.

Although this liquor is indeed pure alkali diſſolved in water, yet we are inclined to give the preference to the name employed by the Edinburgh college, as well as to the modes of preparing it, directed in the following formulæ.

LIXIVIUM CAUSTICUM.

Edinb.

Cauſtic ley.

Take of

Freſh-burnt quicklime, eight ounces;

Purified fixed vegetable alkaline ſalt, eight ounces.

Throw in the quicklime, with twenty-eight ounces of warm water, into an iron or earthen veſſel. The ebullition and extinction of the lime being perfectly finiſhed, inſtantly add the alkaline ſalt; and having thoroughly mixed them, ſhut the veſſel till it cools. Stir the cooled matter, and pour out the whole into a glaſs funnel, whoſe throat muſt be ſtopt up with a piece of clean rag. Let the upper mouth of the funnel be covered, whilſt the tube of it is inſerted into a glaſs veſſel, ſo that the ley may gradually drop through the rag into that veſſel. When it firſt gives over dropping, pour upon it into the funnel ſome ounces of water; but cautiouſly, and in ſuch a manner, that the water ſhall ſwim above the matter. The ley will again begin to drop, and the affuſion of water is to be repeated in the ſame manner, until three pounds have dropped, which takes up the ſpace of two or three days; then agitating the ſuperior and inferior parts of the ley together, mix them, and put up the liquor in a well-ſhut veſſel.

If the ley be rightly prepared, it will be void of colour or ſmell; nor will it raiſe an effervefcence with acids, except, perhaps, a very ſlight one. Colour and odour denote the ſalt not ſufficiently calcined; and effervefcence, that the quicklime has not been good.

The reaſons and propriety of the different ſteps in the above proceſs will be beſt underſtood by ſtudying the theory on which it is founded. The principle of mildneſs in all alkaline ſalts, whether fixed or volatile, vegetable or foſſil, is very evidently fixed air, or the aërial acid: But as quicklime has a greater attraction for fixed air than any of theſe ſalts, ſo if this ſubſtance be preſented to any of them, they are thereby deprived of their fixed air, and forthwith become cauſtic. This is what preciſely happens in the above proceſſes (ſee Analysis of Vegetables by Fire, page 40. The propriety of cloſely ſhutting the veſſels through almoſt every ſtep of the operation, is ſufficiently obvious; viz. to prevent the abſorption of fixed air from the atmoſphere, which might defeat our intentions. When only a piece of cloth is put into the throat of the funnel, the operation is

is much more tedious, becauſe the pores of the cloth are ſoon blocked up with the wet powdery matter. To prevent this, it may be convenient to place above the cloth a piece of fine Fly's wire-work; but as metallic matters are apt to be corroded, the method uſed by Dr Black is of all propoſed the moſt eligible. The Doctor firſt drops a rugged ſtone into the tube of the funnel, in a certain place of which it forms itſelf a firm bed, whilſt the inequalities on its ſurface afford interſtices of ſufficient ſize for the paſſage of the filtering liquor. On the upper ſurface of this ſtone he lightly impedes a thin layer of lint or clean tow; immediately above this, but not in contact with it, he drops a ſtone ſimilar to the former, and of a ſize proportioned to the ſwell in the upper part of the tube of the funnel. The interſtices between this ſecond ſtone and the funnel are filled up with ſtones of a leſs dimenſion, and the gradation uniformly continued till pretty ſmall ſand is employed. Finally, this is covered with a layer of coarſer ſand and ſmall ſtones to ſuſtain the weight of the matter, and to prevent its being inviſcated in the minute interſtices of the fine ſand. The throat of the funnel being thus built up, the ſtony fabric is to be freed of clay and other adhering impurities, by making clean water paſs through it till the water comes clear and tranſparent from the extremity of the funnel. It is obvious, that in this contrivance the author has, as uſual, copied nature in the means ſhe employs to depurate watery matters in the bowels of the earth; and it might be uſefully applied for the filtration of various other fluids.

It is a very neceſſary caution to pour the water gently into the funnel; for if it be thrown in a forcible ſtream, a quantity of the powdery matter will be waſhed down, and render all our previous labour uſeleſs. That part of the ley holding the greateſt quantity of ſalt in ſolution, will no doubt be heavieſt, and will conſequently ſink loweſt in the veſſel: the agitation of the ley is therefore neceſſary, in order to procure a ſolution of uniform ſtrength through all its parts. If the ſalt has been previouſly freed of oily and other inflammable matters, this ley will be colourleſs and void of smell. If the quicklime has been ſo effectually deprived of its own fixed air, as to be able to abſorb the whole of that in the alkali, the ley will make no effervescence with acids, being now deprived of fixed air, to the diſcharge of which by acids this appearance is to be aſcribed in the mild or aërated alkalies.

The cauſtic ley is therefore to be conſidered as a ſolution of pure alkali in water. See article Fixed Air, page 65.

It may be proper to obſerve, for the ſake of underſtanding the whole of the theory of the above proceſs, that whilſt the alkali has become cauſtic, from being deprived of fixed air by the quicklime, the lime has in its turn become mild and inſoluble in water from having received the fixed air of the alkali.

The cauſtic ley, under various pompous names, has been much uſed as a lithontriptic; but its fame is now beginning to decline. In acidities in the ſtomach, attended with much flatulence and laxity, the cauſtic ley is better adapted than mild alkalies; as in its union with the acid matter it does not ſeparate air. When covered with mucilaginous matters, it may be ſafely taken into the ſtomach; and by ſtimulating, it coincides with the other intentions of cure; by ſome dyſpeptic patients it has been employed with advantage.

KALI PURUM.

Lond.

Pure kali.

Take of

Water of pure kali, one gallon.

Evaporate it to dryness; after which let the salt melt on the fire, and pour it out.

CAUSTICUM COMMUNE ACERRIMUM.

Edin.

The strongest common caustic.

Take of

Caustic ley, what quantity you please.

Evaporate it in a very clean iron vessel upon a gentle fire, till, on the ebullition ceasing, the saline matter gently flows like oil, which happens before the vessel becomes red. Pour out the caustic, thus liquefied, upon a smooth iron plate; let it be divided into small pieces before it hardens, and these are to be put up into well-shut phials.

These preparations may be considered as differing in no essential particular. But the directions given by the Edinburgh college are the most precise and distinct.

The effect of the above processes is simply to discharge the water of the solution, whereby the causticity of the alkali is more concentrated in any given quantity. These preparations are strong and sudden caustics. The caustic prepared in this way has an inconvenience of being apt to liquefy too much upon the part to which it is applied, so that it is not easily confined within the limits in which it is intended to operate; and indeed the suddenness of its action depends on this disposition to liquefy.

CALX CUM KALI PURO.

Lond.

Lime with pure kali.

Take of

Quick-lime, five pounds and four ounces;

Water of pure kali, sixteen pounds by weight.

Boil away the water of pure kali to a fourth part; then sprinkle in the lime, broken to powder by the affusion of water. Keep it in a vessel close stopped.

CAUSTICUM COMMUNE MITIUS.

Edinb.

The milder common caustic.

Take of

Caustic ley, what quantity you please.

Evaporate in an iron vessel till one-third remains; then mix with it as much new-slaked quicklime as will bring it to the consistence of pretty solid pap, which is to be kept in a vessel closely stopt.

These preparations do not essentially differ from each other, while the chief difference between the present formula and that which stood in the last edition of the London pharmacopœia is in the name. It was then styled the *causticum commune acerrimum.*

Here the addition of lime in substance renders the preparation less apt to liquefy than the foregoing, and consequently it is more easily confinable within the intended limits, but proportionably slower in its operation. The design of keeping or of slaking the lime is, that its acrimony may be somewhat abated.

Exposed long to the air, these preparations gradually resume their power of effervescence, and lose proportionably

portionably of the additional activity which the quicklime had produced in them.

NATRON PRÆPARATUM.

Lond.

Prepared natron.

Take of
Barilla, powdered, two pounds;
Diſtilled water, one gallon.

Boil the barilla in four pints of water for half an hour, and ſtrain. Boil the part which remains after ſtraining with the reſt of the water, and ſtrain. Evaporate the mixed liquors to two pints, and ſet them by for eight days: ſtrain this liquor again; and, after due boiling, ſet it aſide to cryſtallize. Diſſolve the cryſtals in diſtilled water; ſtrain the ſolution, boil and ſet it aſide to cryſtallize.

The name of *natron*, here uſed by the London college for the fixed foſſil alkali, has, as well as their name for the vegetable alkali, been by ſome objected to. And although they are here ſupported by the authority of the ancients, yet perhaps they would have done better in following the beſt modern chemiſts by employing the term *ſal ſoda*. This article differs in name only from the following.

SAL ALCALINUS fixus FOSSILIS PURIFICATUS.

Edin.

Fixed foſſil alkaline ſalt purified.

Take of
Aſhes of Spaniſh kali, commonly called ſoda or barilla, as much as you pleaſe.

Bruiſe them; then boil in water till all the ſalt be diſſolved in the water. Strain this thro' paper, and evaporate in an iron veſſel, ſo that after the liquor has cooled the ſalt may concrete into cryſtals.

By the above proceſſes, the foſſil alkali is obtained ſufficiently pure, being much more diſpoſed to cryſtallize than the vegetable alkali; the admixture of this laſt, objected to by Dr Lewis, is hereby in a great meaſure prevented.

It is with great propriety, that in this, as well as many other proceſſes, the London college direct the uſe of diſtilled water, as being free from every impregnation.

The natron, or foſſil alkali, is found lying upon the ground in the iſland of Teneriff, and ſome other countries. The native productions of this ſalt ſeem to have been better known to the ancients than to late naturaliſts; and it is, with good reaſon, ſuppoſed to be the nitre of the Bible. How far the native natron may ſuperſede artificial means to procure it from mixed bodies, we have not been able to learn with certainty.

The foſſil alkali is not only a conſtituent of different neutrals, but is alſo ſometimes employed as a medicine by itſelf. And in its purified ſtate it has been by ſome reckoned uſeful in affections of the ſcrophulous kind.

AMMONIA PRÆPARATA.

Lond.

Prepared ammonia.

Take of
Sal ammoniac, powdered, one pound;
Prepared chalk, two pounds.

Mix and ſublime.

AQUA AMMONIÆ.

Lond.

Water of ammonia.

Take of
Sal ammoniac, one pound;
Pot-aſh, one pound and a half;
Water, four pints.

Draw off two pints, by diſtillation, with a ſlow fire.

ALCALI VOLATILE ex SALE AMMONIACO, vulgo SAL AMMONIACUS VOLATILIS.

Edinb.

Volatile alkali from fal ammoniac, commonly called *Volatile fal ammoniac.*

Take of
Sal ammoniac, one pound;
Chalk, very pure and dry, two pounds;
Mix them well, and fublime from a retort into a refrigerated receiver.

SPIRITUS SALIS AMMONIACI.

Edinb.

Spirit of fal ammoniac.

Take
Sal ammoniac,
Purified vegetable fixed alkali, of each fixteen ounces;
Water, two pounds.
Having mixed the falts, and put them into a glafs retort, pour in the water; then diftil to drynefs with a fand-bath, gradually raifing the heat.

These articles, which in the laft edition of the London Pharmacopœia were ftyled *fpiritus et fal volatilis falis ammoniaci*, were then directed to be prepared in the fame manner.

Sal ammoniac is a neutral falt, compofed of volatile alkali and marine acid. In thefe proceffes the acid is abforbed by the fixt alkali or chalk; and the volatile alkali is of courfe fet at liberty.

The volatile alkali is, however, in its mild ftate, having catched the fixed air, or aërial acid, difcharged from the fixed alkali or chalk on their uniting with the muriatic acid.

The fixt alkali begins to act upon the fal ammoniac, and extricates a pungent urinous odour as foon as they are mixed. Hence it is moft convenient not to mix them till put into the diftilling veffel: the two falts may be diffolved feparately in water, the folutions poured into a retort, and a receiver immediately fitted on. An equal weight of the fixt falt is fully, perhaps more than fufficient, to extricate all the volatile.

Chalk does not begin to act upon the fal ammoniac till a confiderable heat be applied. Hence thefe may be without inconvenience, and indeed ought to be thoroughly mixed together before they are put into the retort. The furface of the mixture may be covered with a little more powdered chalk, to prevent fuch particles of the fal ammoniac as may happen to lie uppermoft from fubliming unchanged. Tho' the fire muft here be much greater than when fixt alkaline falt is ufed, it muft not be ftrong, nor fuddenly raifed; for if it be, a part of the chalk (though of itfelf not capable of being elevated by any degree of heat) will be carried up along with the volatile falt. M. du Hamel experienced the juftnefs of this obfervation: He relates, in the Memoirs of the French Academy of Sciences for the year 1735, that he frequently found his volatile falt, when a very ftrong fire was made ufe of in the fublimation, amount to more, fometimes one half more, than the weight of the crude fal ammoniac employed: and that, though it is certain that not three-fourths of this concrete are pure volatile falt, the fixt earthy matter, thus once volatilifed by the alkali, arofe along with it again upon the gentleft refublimation, diffolved with it in water, and exhaled with it in the air.

When all the falt has fublimed, and the receiver grown cool, it may be

be taken off, and luted to another retort charged with fresh materials. This process may be repeated till the recipient appears lined with volatile salt to a considerable thickness; the vessel must then be broken, in order to get out the salt.

The volatile salt and spirit of sal ammoniac are the purest of all the medicines of this kind. They are somewhat more acrimonious than those produced directly from animal substances, which always contain a portion of the oil of the subject, and receive from thence some degree of a saponaceous quality. These last may be reduced to the same degree of purity, by combining them with acids into ammoniacal salts; and afterwards recovering the volatile alkali from these compounds by the processes above directed.

The matter which remains in the retort after the distillation of the spirit, and sublimation of the salt of sal ammoniac, is found to consist of marine acid united with the fixt alkali or chalk employed. When fixt alkaline salt has been used as the intermedium, the residuum, or *caput mortuum* as it is called, yields, on solution and crystallisation, a salt exactly similar to the *spiritus salis marini coagulatus* afterwards described: and hence we may judge of the extraordinary virtues formerly attributed to this salt, under the names of *sal antihystericum*, *antihypochondriacum*, *febrifugum*, *digesticum Sylvii*, *&c.*

The caput mortuum of the volatile salt, where chalk is employed as an intermedium, exposed to a moist air, runs into a pungent liquor, which proves nearly the same with a solution of chalk made directly in the marine acid; it is called by some *oleum cretæ*, oil of chalk. If calcined shells, or other animal limes, be mingled with sal ammoniac, a mass will be obtained, which likewise deliquesces in the air, and forms a liquor of the same kind.

AQUA AMMONIÆ PURÆ.

Lond.

Water of pure ammonia.

Take of
- Sal ammoniac, one pound;
- Quicklime, two pounds;
- Water, one gallon.

Add to the lime two pints of the water. Let them stand together an hour; then add the sal ammoniac and the other six pints of water boiling, and immediately cover the vessel. Pour out the liquor when cold, and distil off with a slow fire one pint.

ALCALI VOLATILE CAUSTICUM, vulgo SPIRITUS SALIS AMMONIACI cum CALCE VIVA.

Edinb.

Caustic volatile alkali, commonly called *spirit of sal ammoniac with quicklime.*

Take of
- Quicklime, fresh burnt, two pounds;
- Water, one pound.

Having put the water into an iron or stone-ware vessel, add the quicklime, previously beat; cover the vessel for twenty-four hours, whilst the lime falls into a fine powder, which commit to the retort. Then add sixteen ounces of sal ammoniac, diluted with four times its weight of water; then shutting the mouth of the retort, mix them together by agitation. Lastly, distil into a refrigerated receiver, with a very gentle heat, so that the operator can easily bear the heat of the retort applied to his hands; twenty ounces of liquor are to be drawn off. In this distillation the vessels are to be so luted as

thoroughly to exclude the most penetrating vapours. After the distillation, however, they are to be opened, and the alkali poured out before the retort hath altogether cooled.

The theory of this process is precisely the same with that directed for the preparation of *lixivium causticum.* The effect of the quicklime on the sal ammoniac, is very different from that of the chalk and fixt alkali on the foregoing process. Immediately on mixture, a very penetrating vapour exhales; and in distillation the whole of the volatile salt arises in a liquid form; no part of it appearing in a concrete state, how gently soever the liquor be redistilled. This spirit is far more pungent than the other, both in smell and taste; and, like fixt alkalies rendered caustic by the same intermedium, it raises no effervescence on the admixture of acids. The whole of these phenomena are to be ascribed to the absorption of fixed air from the alkali by means of the quicklime; and from being thus deprived of the aërial acid, the volatile alkali is brought to a caustic state.

This spirit is held to be too acrimonious for internal use, and has therefore been chiefly employed for smelling to in faintings, &c. tho' when properly diluted, it may be given inwardly with safety. It is a powerful menstruum for some vegetable substances, as Peruvian bark, from which the other spirits extract little. It is also most convenient for the purpose of rendering oils miscible with water; as in the preparation of what is called in extemporaneous practice *the oily mixture.*

Some have mixed a quantity of this with the officinal spirits both of sal ammoniac and of hartshorn: which thus become more pungent, so as to bear an addition of a considerable quantity of water, without any danger of the discovery from the taste or smell. This abuse would be prevented, if what has been formerly laid down as a mark of the strength of these spirits (some of the volatile salt remaining undissolved in them) were attended to. It may be detected by adding to a little of the suspected spirit about one-fourth its quantity or more of rectified spirit of wine: which, if the volatile spirit be genuine, will precipitate a part of its volatile salt, but occasions no visible separation or change in the caustic spirit, or in those which are sophisticated with it.

Others have substituted to the spirit of sal ammoniac a solution of crude sal ammoniac and fixt alkaline salt mixed together. This mixture deposites a saline matter on the addition of spirit of wine, like the genuine spirit; from which, however, it may be distinguished, by the salt which is thus separated not being a volatile alkaline, but a fixt neutral salt. The abuse may be more readily detected by a drop or two of solution of silver made in aquafortis, which will produce no change in the appearance of the true spirit, but will render the counterfeit turbid and milky.

LIQUOR VOLATILIS, SAL ET OLEUM, CORNU CERVI.

Lond.

The volatile liquor, salt, and oil, of hartshorn.

Take of

Hartshorn, ten pounds.

Distil with a fire gradually increased. A volatile liquor, salt, and oil, will ascend.

The oil and salt being separated, distil the liquor three times.

To

To the ſalt add an equal weight of prepared chalk, and ſublime thrice, or till it become white.

The ſame volatile liquor, ſalt, and oil, may be obtained from any parts (except the fat) of any kind of animals.

The volatile alkali obtained from hartſhorn, whether in a ſolid or fluid ſtate, is preciſely the ſame with that obtained from ſal ammoniac. And as that proceſs is the eaſieſt, the Edinburgh college have entirely rejected the preſent. While, however, the names of ſpirit and ſalt of hartſhorn are ſtill in daily uſe, ammonia, or the volatile alkali, is ſtill prepared from bones and other animal ſubſtances by ſeveral very extenſive traders.

The wholeſale dealers have very large pots for the diſtillation of hartſhorn, with earthen heads almoſt like thoſe of the common ſtill: for receivers, they uſe a couple of oil jars, the mouths of which are luted together; the pipe that comes from the head enters the lowermoſt jar through a hole made on purpoſe in its bottom. When a large quantity of the ſubject is to be diſtilled, it is cuſtomary to continue the operation for ſeveral days ſucceſſively; only unluting the head occaſionally to put in freſh materials.

When only a ſmall quantity of ſpirit or ſalt is wanted, a common iron pot, ſuch as is uſually fixed in ſand furnaces, may be employed; an iron head being fitted to it. The receiver ought to be large, and a glaſs, or rather tin adopter, inſerted between it and the pipe of the head.

The diſtilling veſſel being charged with pieces of the horn, a moderate fire is applied, which is ſlowly increaſed, and raiſed at length almoſt to the utmoſt degree. At firſt a watery liquor ariſes; the quantity of which will be ſmaller or greater according as the horns were more or leſs dry: this is ſucceeded by the ſalt and oil; the ſalt at firſt diſſolves as it comes over in the phlegm, and thus forms what is called *ſpirit*. When the phlegm is ſaturated, the remainder of the ſalt concretes in a ſolid form to the ſides of the recipient. If it be required to have the whole of the ſalt ſolid and undiſſolved, the phlegm ſhould be removed as ſoon as the ſalt begins to ariſe, which may be known by the appearance of white fumes: and that this may be done the more commodiouſly, the receiver ſhould be left unluted, till this firſt part of the proceſs be finiſhed. The white vapours which now ariſe, ſometimes come with ſuch vehemence, as to throw off or burſt the receiver; to prevent this accident, it is convenient to have a ſmall hole in the luting; which may be occaſionally ſtopt with a wooden peg, or opened as the operator ſhall find proper. After the ſalt has all ariſen, a thick dark-coloured oil comes over: the proceſs is now to be diſcontinued; and the veſſels, when grown cold, unluted.

All the liquid matters being poured out of the receiver, the ſalt which remains adhering to its ſides is to be waſhed out with a little water, and added to the reſt. It is convenient to let the whole ſtand for a few hours, that the oil may the better diſengage itſelf from the liquor, ſo as to be firſt ſeparated by a funnel, and afterwards more perfectly by filtration through wetted paper. The ſalt and ſpirits are then to be farther purified as above directed.

The ſpirit of hartſhorn met with in the ſhops is extremely precarious in point of ſtrength; the quantity of ſalt contained in it (on which its

efficacy depends) varying according as the diftillation in rectifying it is continued for a longer or fhorter time. If after the volatile falt has arifen, fo much of the phlegm or watery part be driven over as is juft fufficient to diffolve it, the fpirit will be fully faturated, and as ftrong as it can be made. If the procefs be not at this inftant ftopped, the phlegm, continuing to arife, muft render the fpirit continually weaker and weaker. The diftillation therefore ought to be difcontinued at this period; or rather whilft fome of the falt ftill remains undiffolved: the fpirit will thus prove always equal, and the buyer be furnifhed with a certain criterion of its ftrength. Very few have taken any notice of the above-mentioned inconvenience of thefe kinds of fpirits; and the remedy is firft hinted at in the Pharmacopœia Reformata. The purity of the fpirit is eafily determined from its clearnefs and grateful odour.

Volatile alkaline falts, and their folutions called *fpirits*, agree, in many refpects, with fixt alkalies, and their folutions or leys; as in changing the colour of blue flowers to a green; effervefcing with and neutralifing acids when in their mild ftate; liquefying the animal juices; and corroding the flefhy parts, fo as when applied to the fkin, and prevented from exhaling by a proper covering, to act as caufics; diffolving oils and fulphur, though lefs readily than the fixed alkalies, on account, probably, of their not being able to bear any confiderable heat, by which their activity might be promoted. Their principal difference from the other alkalies feems to confift in their volatility: they exhale or emit pungent vapours in the coldeft ftate of the atmofphere; and by their ftimulating fmell they prove ferviceable in languors and faintings. Taken internally, they difcover a greater colliquating as well as ftimulating power; the blood drawn from a vein, after their ufe has been continued for fome time, is faid to be remarkably more fluid than before; they are likewife more difpofed to operate by perfpiration, and to act on the nervous fyftem. They are particularly ufeful in lethargic cafes; in hyfterical and hypochondriacal diforders, and in the languors, headachs, inflations of the ftomach, flatulent colics, and other fymptoms which attend them; they are generally found more ferviceable to aged perfons, and in phlegmatic habits, than in the oppofite circumftances. In fome fevers, particularly thofe of the low kind, accompanied with a cough, hoarfenefs, and a redundance of phlegm, they are of great utility; raifing the vis vitæ, and exciting a falutary diaphorefis: but in putrid fevers, fcurvies, and wherever the mafs of blood is thin and acrimonious, their ufe is ambiguous. As they are more powerful than the fixt, in liquefying tenacious humours; fo they prove more hurtful, where the fluids are already in a colliquated ftate. In vernal intermittents, particularly thofe of the flow kind, they are often the moft efficacious remedy. Dr Biffet obferves, in his Effay on the Medical Conftitution of Great Britain, that though many cafes occur which will yield to no other medicine than the bark, yet he has met with many which were only fuppreffed from time to time by the bark, but were completely cured by alkaline fpirits: He tells us, that thefe fpirits will often carry off vernal intermittents, without any previous evacuation; but that they are generally more effectual, if a purge be premifed; and in plethoric or inflamma-

flammatory cases, or where the fever personates a remittent, venesection is necessary.

These salts are most commodiously taken in a liquid form, largely diluted; or in that of a bolus, which should be made up only as it is wanted. The dose is from a grain or two to ten or twelve. Ten drops of a well made spirit, or saturated solution, are reckoned to contain about a grain of the salt. In intermittents, fifteen or twenty drops of the spirit are given in a tea-cup ful of cold spring water, and repeated five or six times in each intermission.

The volatile salts and spirits prepared from different animal substances, have been supposed capable of producing different effects upon the human body and to receive specific virtues from the subject. The salt of vipers has been esteemed particularly serviceable in the disorders occasioned by the bite of that animal; and a salt drawn from the human skull, in diseases of the head. But modern practice acknowledges no such different effects from these preparations; and chemical experiments have shown their identity. There is, indeed, when not sufficiently purified, a very perceptible difference in the smell, taste, degree of pungency, and volatility of these salts; and in this state their medicinal virtues vary considerably enough to deserve notice: but this difference they have in common, according as they are more or less loaded with oil, not as they are produced from this or that animal substance. As first distilled, they may be looked upon as a kind of volatile soap, in which the oil is the prevailing principle; in this state they have much less of the proper alkaline acrimony and pungency than when they have undergone repeated distillations, and such other operations as disengage the oil from the salt; for by these means they lose their saponaceous quality, and acquiring greater degrees of acrimony, become medicines of a different class. These preparations therefore do not differ near so much from each other, as they do from themselves in different states of purity. To which may be added, that when we consider them as loaded with oil, the virtues of a distilled animal oil itself are likewise to be brought into the account.

These oils, as first distilled, are highly fetid and offensive, of an extremely heating quality, and of such activity, that, according to Hoffman's account, half a drop dissolved in a dram of spirit of wine, is sufficient to raise a copious sweat. By repeated rectifications, they lose their offensiveness, and at the same time become mild in their medicinal operation. The rectified oils may be given to the quantity of twenty or thirty drops, and are said to be anodyne and antispasmodic, to procure a calm sleep and gentle sweat, without heating or exagitating the body, as has been observed in treating of the oleum animale. It is obvious, therefore, that the salts and spirits must differ, not only according to the quantity of oil they contain, but according to the quality of the oil itself in its different states.

The volatile salts and spirits, as first distilled, are of a brown colour, and a very offensive smell: by repeated rectification, as directed in the processes above set down, they lose great part of the oil on which these qualities depend, the salt becomes white, the spirit limpid as water, and of a grateful odour; and this is the mark of sufficient rectification.

It

It has been objected to the repeated rectification of theſe preparations, that, by ſeparating the oil, it renders them ſimilar to the pure ſalt and ſpirit of ſal ammoniac, which are procurable at an eaſier rate. But the intention is not to purify them wholly from the oil, but to ſeparate the groſſer part, and to ſubtilize the reſt, ſo as to bring it towards the ſame ſtate as when the oil is rectified by itſelf. The rectification of ſpirit of hartſhorn, has been repeated twenty times ſucceſſively, and found ſtill to participate of oil, but of an oil very different from what it was in the firſt diſtillation.

The rectified oils, in long-keeping, become again fetid. The ſalts and ſpirits alſo, however carefully rectified, ſuffer in length of time the ſame change; reſuming their original brown colour and ill ſmell; a proof that the rectification is far from having diveſted them of oil. Any intentions, however, which they are thus capable of anſwering, may be as effectually accompliſhed by a mixture of the volatile alkali with the oleum animale, in its rectified ſtate, to any extent that may be thought neceſſary.

KALI VITRIOLATUM.

Lond.

Vitriolated kali.

Take of

The ſalt which remains after the diſtillation of the nitrous acid, two pounds.

Diſtilled water, two gallons.

Burn out the ſuperfluous acid, with a ſtrong fire, in an open veſſel: then boil it a little while in the water; ſtrain, and ſet the liquor aſide to cryſtallize.

The ſalt thus formed, is the ſame with the vitriolated tartar of the laſt edition of the London Pharmacopœia; but it is now prepared in a cheaper and eaſier manner, at leaſt for thoſe who diſtil the nitrous acid. In both ways a neutral is formed, conſiſting of the fixed vegetable alkali, united to the vitriolic acid. But a ſimilar compound may alſo be obtained by the following proceſs of the Edinburgh Pharmacopœia.

ALKALI FIXUM VEGETABILE VITRIOLATUM, vulgo TARTARUM VITRIOLATUM.

Edinb.

Vitriolated fixed vegetable alkali, commonly called *Vitriolated tartar.*

Take of

Vitriolic acid, diluted with ſix times its quantity of water, as much as you pleaſe.

Put it into a capacious glaſs veſſel, and gradually drop into it, of purified fixed vegetable alkali, diluted with ſix times its weight of water, as much as is ſufficient thoroughly to neutralize the acid. The effervescence being finiſhed, ſtrain the liquor through paper; and after proper evaporation, ſet it apart to cryſtallize.

The operator ought to take care that the vapour ſeparated during the effervescence ſhall not be applied to his noſtrils; as fixed air, when applied to the olfactory nerves, is highly deleterious to life.

This is an elegant, and one of the leaſt troubleſome ways of preparing this ſalt. The Edinburgh College, in their former editions, ordered the acid liquor to be dropped into the alkaline: by the converſe procedure now received, it is obviouſly more eaſy to ſecure againſt a redundance of acidity; and for the greater certainty in this point,

point, it may be expedient, as in the foregoing proceſs, to drop in a little more of the alkaline ley than the ceſſation of the effervescence ſeems to require.

In a former edition of the ſame Pharmacopœia, the acid was directed to be diluted only with equal its quantity of water, and the alkali with that quantity of water which it is capable of imbibing from the atmoſphere. By that imperfection there was not near enough of water to keep vitriolated tartar diſſolved; on which account, as faſt as the alkali was neutralized by the acid, a great part fell to the bottom in a powdery form. In order to obtain perfect and well formed cryſtals, the liquor ſhould not be ſet in the cold, but continued in moderate heat, ſuch as the hand can ſcarcely bear, that the water may ſlowly evaporate.

It is remarkable, that although the vitriolic acid and fixed alkaline ſalt do each readily unite with water, and ſtrongly attract moiſture, even from the air, yet the neutral reſulting from the combination of theſe two, vitriolated tartar, is one of the ſalts moſt difficult of ſolution, very little of it being taken up by cold water.

Vitriolated tartar, in ſmall doſes, as a ſcruple or half a dram, is an uſeful aperient; in larger ones, as four or five drams, a mild cathartic, which does not paſs off ſo haſtily as the *ſal catharticus amarus*, or *ſal Glauberi*, and ſeems to extend its action further. The wholeſale dealers in medicines have commonly ſubſtituted to it an article otherwiſe almoſt uſeleſs in their ſhops, the reſiduum of Glauber's ſpirit of nitre. This may be looked upon as a venial fraud, if the ſpirit has been prepared as formerly directed, and the reſiduum diſſolved and cryſtallized: but it is a very dangerous one if the vitriolic acid has been uſed in an over proportion, and the caput mortuum employed without cryſtallization; the ſalt in this caſe, inſtead of a mild neutral one, of a moderately bitter taſte, proving highly acid. The purchaſer ought therefore to inſiſt upon the ſalt being in a cryſtalline form. The cryſtals, when perfect, are oblong, with ſix flat ſides, and terminated at each end by a ſix-ſided pyramid: ſome appear compoſed of two pyramids joined together by the baſes; and many, in the moſt perfect cryſtallizations I have ſeen, are very irregular. They decrepitate in the fire, ſomewhat like thoſe of ſea-ſalt, for which they have ſometimes been miſtaken.

SAL POLYCHRESTUS.

Edin.

Salt of many virtues.

Take
- Nitre in powder,
- Flowers of ſulphur, of each equal parts.

Mingle them well together, and inject the mixture, by little and little at a time, into a red-hot crucible: the deflagration being over, let the ſalt cool, after which it is to be put up in a glaſs veſſel well ſhut. The ſalt may be purified by diſſolving it in warm water, filtering the ſolution, and exhaling it to dryneſs; or by cryſtallization.

This is another method of uniting the vitriolic acid with the common vegetable fixt alkali. Both the nitre and the ſulphur are decompounded in the operation: the acid of the nitre, and the inflammable principle of the ſulphur, detonate together, and are diſſipated; while the acid of the ſulphur (which, as we have already ſeen, is no other than the vitriolic acid) remains com-

combined with the alkaline basis of the nitre. The shops, accordingly, have substituted to the sal polychrest the foregoing preparation.

NATRON VITRIOLATUM.

Lond.

Vitriolated natron.

Take of

The salt which remains after the distillation of the muriatic acid, two pounds;

Distilled water, two pints and an half.

Burn out the superfluous acid with a strong fire, in an open vessel; then boil it for a little in the water: strain the solution, and set it by to crystallize.

SODA VITRIOLATA. vulgo SAL CATHARTICUS GLAUBERI.

Edin.

Vitriolated soda, commonly called *Cathartic salt of Glauber.*

Dissolve in warm water the mass which remains after the distillation of spirit of sea-salt: filtre the solution, and crystallize the salt.

The directions given for the preparation of this salt, long known by the name of Sal mirabile Glauberi, are nearly the same in the pharmacopœias of both colleges, but those of the London college are to be preferred, as being most accurate and explicit.

In a former edition of the Edinburgh pharmacopœia, it was ordered, that if the crystals (obtained as above) proved too sharp, they should be again dissolved in water, and the filtered liquor evaporated to such a pitch only as may dispose the salt to crystallize. But there is no great danger of the crystals proving too sharp, even when the spirit of salt is made with the largest proportion of oil of vitriol directed under that process. The liquor which remains after the crystallization is indeed very acid; and with regard to this preparation, it is convenient it should be so; for otherwise the crystals will be very small, and likewise in a small quantity. Where a sufficient proportion of oil of vitriol has not been employed in the distillation of the spirit, it is necessary to add some to the liquor, in order to promote the crystallization of the salt.

The title of sal catharticus, which this salt has often had, expresses its medical virtues. Taken from half an ounce to an ounce, or more, it proves a mild and useful purgative; and in smaller doses, largely diluted, a serviceable aperient and diuretic. The shops frequently substitute to it the *sal catharticus amarus*, which is nearly of the same quality, but somewhat more unpleasant, and, as is said, less mild in operation. They are very easily distinguishable from each other, by the effect of alkaline salts upon solutions of them. The solution of Glauber's salt suffers no visible change from this addition, its own basis being a true fixt alkali: but the solution of the *sal catharticus amarus* grows instantly white and turbid, its basis, which is an earth, being extricated copiously by the alkaline salt.

NITRUM PURIFICATUM.

Lond.

Purified nitre.

Take of

Nitre, two pounds,

Distilled water, four pints.

Boil the nitre in the water till it be dissolved; strain the solution, and set it apart to crystallize.

Common nitre contains usually a considerable proportion of sea-salt, which

which in this proceſs is ſeparated, the ſea-ſalt remaining diſſolved after greateſt part of the nitre has cryſtallized. The cryſtals which ſhoot after the firſt evaporation are large, regular, and pure: but when the remaining liquor is further evaporated, and this repeated a ſecond or third time, the cryſtals prove at length ſmall, imperfect, and tipt with little cubical glebes of ſea-ſalt.

When rough nitre, in the ſtate wherein it is firſt extracted from the earths impregnated with it, is treated in this manner, there remains at laſt a liquor, called mother-ley, which will no longer afford any cryſtals. This appears to participate of the nitrous and marine acids, and to contain an earthy matter diſſolved by thoſe acids. On adding alkaline lixivia, the earth is precipitated; and when thoroughly waſhed with water, proves inſipid. If the liquor be evaporated to dryneſs, a bitteriſh ſaline matter is left; which being ſtrongly calcined in a crucible, parts with the acids, and becomes, as in the other caſe, inſipid.

This earth has been celebrated as an excellent purgative, in the doſe of a dram or two; and, in ſmaller doſes, as an alterant in hypochondriacal and other diſorders. This medicine was for ſome time kept a great ſecret, under the names of *Magneſia alba*, *Nitrous panacea*, *Count Palma's powder*, *Il polvere albo Romano*, *Poudre de Sentinelli*, &c. till Lanciſi made it public in his notes on the *Metallotheca Vaticana*. It has been ſuppoſed, that this earth is no other than a portion of the lime commonly added in the elixation of nitre at the European nitre-works: but though the ſpecimens of magneſia examined by Neumann, and ſome of that which has lately been brought hither from abroad, gave plain marks of a calcareous nature; yet the true magneſia muſt be an earth of a different kind, calcareous earths being rather aſtringent than purgative. The earthy baſis of the *ſal cathartícus amarus* is found to have the properties aſcribed to the true magneſia of nitre, and appears to be the very ſame ſpecies of earth: from that ſalt therefore this medicine is now prepared, as will be ſeen hereafter. The magneſia alba differs from calcareous earths, in having a leſs powerful attraction for fixed air, and in not becoming cauſtic by calcination.

KALI ACETATUM

Lond.

Acetated kali.

Take of

Kali, one pound.

Boil it, with a ſlow fire, in four or five times the quantity of diſtilled vinegar; the effervescence ceaſing, let there be added, at different times, more diſtilled vinegar, until the firſt vinegar being nearly evaporated, the addition of freſh will excite no effervescence, which will happen when about twenty pounds of diſtilled vinegar are conſumed; afterwards let it be dried ſlowly. An impure ſalt will be left, which melt for a little while with a ſlow fire; then let it be diſſolved in water, and filtered through paper.

If the fuſion has been rightly performed, the ſtrained liquor will be colourleſs; if otherwiſe, of a brown colour.

Laſtly, evaporate this liquor with a ſlow fire, in a very ſhallow glaſs veſſel; the ſalt whilſt it dries being ſometimes ſtirred, that it may ſooner grow dry, which ſhould be kept in a veſſel cloſe ſtopt.

The ſalt ought to be of the greateſt whiteneſs, and diſſolve wholly, both in water and ſpirit of wine, without

without leaving any feces. If the salt, although white, should deposite any feces in spirit of wine, that solution in the spirit should be filtered through paper, and the salt again dried.

ALCALI FIXUM VEGETABILE ACETATUM, vulgo TARTARUM REGENERATUM.

Edin.

Acetated fixed vegetable alkali, commonly called *Regenerated tartar.*

Take of

Salt of tartar, one pound.

Boil it with a very gentle heat in four or five times its quantity of distilled vinegar; add more distilled vinegar, at different times, till on the watery part of the former quantity being nearly dissipated by evaporation, the new addition of vinegar ceases to raise any effervescence. This happens, when about twenty pounds by weight of distilled vinegar has been consumed. The impure salt remaining after the exsiccation, is to be liquefied with a gentle heat for a short time, and it is proper that it should only be for a short time; then dissolve it in water, and strain through paper. If the liquefaction has been properly performed, the strained liquor will be limpid; but if otherwise, of a brown colour.

Evaporate this liquor with a very gentle heat in a shallow glass vessel, occasionally stirring the salt as it becomes dry, that its moisture may sooner be dissipated. Then put it up into a vessel very closely stopt, to prevent it from liquefying in the air.

This salt had formerly the name of Sal diureticus in the London pharmacopœia; but that which they now employ, or perhaps in preference to it, the name of Potassa acetata gives a clearer idea of its nature.

The purification of this salt is not a little troublesome. The operator must be particularly careful in melting it, not to use a great heat, or to keep it long liquefied: a little should be occasionally taken out, and put into water; and as soon as it begins to part freely with its black colour, the whole is to be removed from the fire. In the last drying, the heat must not be so great as to melt it; otherwise it will not prove totally soluble. If the solution in spirit of wine be exsiccated, and the remaining salt liquefied with a very soft fire, it gains the leafy appearance which has procured it the name *Terra foliata.*

In the fourth volume of the Memoirs of the correspondents of the French Academy, lately published, Mr Cadet has given a method of making the salt white at the first evaporation, without the trouble of any further purification. He observes, that the brown colour depends upon the oily matter of the vinegar being burnt by the heat commonly employed in the evaporation; and his improvement consists in diminishing the heat at the time that this burning is liable to happen. The process he recommends is as follows:

Dissolve a pound of salt of tartar in a sufficient quantity of cold water; filtre the solution, and add by degrees as much distilled vinegar as will saturate it, or a little more. Set the liquor to evaporate in a stone-ware vessel in a gentle heat, not so strong as to make it boil. When a pellicle appears

pears on the ſurface, the reſt of the proceſs muſt be finiſhed in a water-bath. The liquor acquires by degrees an oily conſiſtence, and a pretty deep brown colour; but the pellicle or ſcum on the top looks whitiſh, and when taken off and cooled, appears a congeries of little brilliant ſilver-like plates. The matter is to be kept continually ſtirring, till it be wholly changed into this white flaky matter; the complete drying of which is moſt conveniently effected in a warm oven.

We ſhall not take upon us to determine whether the pure or impure ſalt is preferable as a medicine; obſerving only, that the latter is more of a ſaponaceous nature, the former more acrid, though ſomewhat more agreeable to the ſtomach. Mr Cadet reckons the ſalt prepared in his method ſuperior both to the brown and white ſorts made in the common way, as poſſeſſing both the oily quality of the one and the agreeableneſs of the other, and as being always uniform or of the ſame power; whereas the others are liable to vary conſiderably, according to the degree of heat employed in the evaporation. They are all medicines of great efficacy, and may be ſo doſed and managed as to prove either mildly cathartic, or powerfully diuretic: few of the ſaline deobſtruents come up to them in virtue. The doſe is from half a ſcruple to a dram or two. A bare mixture, however, of alkaline ſalt and vinegar, without exſiccation, is not perhaps much inferior as a medicine to the more elaborate ſalt. Two drams of the alkali, ſaturated with vinegar, have been known to occaſion ten or twelve ſtools in hydropic caſes, and a plentiful diſcharge of urine, without any inconvenience.

AQUA AMMONIÆ ACETATÆ.

Lond.

Water of acetated ammonia.

Take of

Ammonia, by weight, two ounces;

Diſtilled vinegar, four pints; or as much as is ſufficient to ſaturate the ammonia.

Mix.

SPIRITUS MINDERERI.

Edin.

Spirit of mindererus.

Take any quantity of the volatile alkaline ſalt of ſal ammoniac, and gradually pour upon it diſtilled vinegar till the effervescence ceaſes; occaſionally ſtirring the mixture to promote the action of the vinegar on the ſalt.

Though this article has long been known by the name of Spiritus Mendereri, ſo called from the inventor; yet that employed by the London college is undoubtedly preferable, as giving a proper idea of its conſtituent parts.

This is an excellent aperient ſaline liquor. Taken warm in bed, it proves commonly a powerful diaphoretic or ſudorific; and as it operates without heat, it has place in febrile and inflammatory diſorders, where medicines of the warm kind, if they fail of procuring ſweat, aggravate the diſtemper. Its action may likewiſe be determined to the kidneys, by walking about in a cool air. The common doſe is half an ounce, either by itſelf, or along with other medicines adapted to the intention. Its ſtrength is not a little precarious, depending much

much on that of the vinegar; an inconvenience which cannot eaſily be obviated, for the ſaline matter is not reducible to the form of a concrete ſalt.

KALI TARTARISATUM.

Lond.

Tartariſed kali.

Take of
Kali one pound;
Cryſtals of tartar, three pounds;
Diſtilled water, boiling, one gallon.

To the ſalt, diſſolved in water, throw in gradually the cryſtals of tartar, powdered: filtre the liquor, when cold, through paper; and, after due evaporation, ſet it apart to cryſtallize.

ALCALI FIXUM VEGETABILE TARTARISATUM, vulgo TARTARUM SOLUBILE.

Edin.

Tartariſed vegetable fixed alkali, commonly called *Soluble tartar.*

Take of
Purified fixt vegetable alkaline ſalt, one pound;
Water, fifteen pounds.

To the ſalt diſſolved in the boiling water gradually add cryſtals of tartar in fine powder, as long as the addition thereof raiſes any effervescence, which almoſt ceaſes before three times the weight of the alkaline ſalt hath been injected; then ſtrain the cooled liquor through paper, and after due evaporation ſet it aſide to cryſtallize.

Common white tartar is perhaps preferable for this operation to the cryſtals uſually met with. Its impurities can here be no objection; ſince it will be ſufficiently depurated by the ſubſequent filtration.

The preparation of this medicine by either of the above methods is very eaſy; though ſome chemiſts have rendered it ſufficiently troubleſome, by a nicety which is not at all wanted. They inſiſt upon hitting the very exact point of ſaturation between the alkaline ſalt and the acid of the tartar; and caution the operator to be extremely careful, when he comes near this mark, leſt by imprudently adding too large a portion of either, he render the ſalt too acid or too alkaline. If the liquor be ſuffered to cool a little before it be committed to the filtre, and then properly exhaled and cryſtallized, no error of this kind can happen, though the ſaturation ſhould not be very exactly hit: for ſince cryſtals of tartar are very difficultly ſoluble even in boiling water, and when diſſolved therein concrete again upon the liquor's growing cold, if any more of them has been employed than is taken up by the alkali, this ſuperfluous quantity will be left upon the filtre; and on the other hand, if too much of the alkali has been made uſe of, it will remain uncryſtallized. The cryſtallization of this ſalt indeed cannot be effected without a good deal of trouble: it is therefore moſt convenient to let the acid ſalt prevail at firſt; to ſeparate the ſuperfluous quantity, by ſuffering the liquor to cool a little before filtration; and then proceed to the total evaporation of the aqueous fluid, which will leave behind it the neutral ſalt required. The moſt proper veſſel for this purpoſe is a ſtone-ware one; iron diſcolours the ſalt.

Soluble tartar, in doſes of a ſcruple, half a dram, or a dram, is a mild cooling aperient: two or three drams commonly looſen the belly; and an ounce proves pretty ſtrongly purgative. It has been particularly recommended as a purgative for maniacal and melancholic patients. Malouin ſays, it is equal in purgative

tive virtue to the cathartic ſalt of Glauber. It is an uſeful addition to the purgatives of the reſinous kind, as it promotes their operation, and at the ſame time tends to correct their griping quality. But it muſt never be given in conjunction with any acid; for all acids decompound it, abſorbing its alkaline ſalt, and precipitating the tartar. On this account it is improper to join to it tamarinds, or ſuch like acid fruits; which is too often done in the extemporaneous practice of thoſe phyſicians who are fond of mixing different cathartics together.

NATRON TARTARISATUM.

Lond.

Tartariſed natron.

Take of
- Natron, twenty ounces;
- Cryſtals of tartar, powdered, two pounds;
- Diſtilled water, boiling, ten pints.

Diſſolve the natron in the water, and gradually add the cryſtals of tartar: filtre the liquor through paper; evaporate, and ſet it aſide to cryſtallize.

SODA TARTARIZATA, vulgo SAL RUPELLENSIS.

Edinb.

Tartariſed ſoda, commonly called *Rochel ſalt.*

The *ſal Rupellenſis* may be prepared from purified foſſile alkaline ſalt and cryſtals of tartar, in the ſame manner as directed for the *tartarum ſolubile.*

This is a ſpecies of ſoluble tartar, made with the ſalt of kali or ſoda, which is the ſame with the mineral alkali, or baſis of ſea-ſalt. It cryſtalliſes far more eaſily than the preceding preparation, and does not, like it, grow moiſt in the air. It is alſo conſiderably leſs purgative, but is equally decompounded by acids. It appears to be a very elegant ſalt, and begins now to come into eſteem in this country, as it has long been in France.

ALUMINIS PURIFICATIO.

Lond.

Purification of alum.

Take of
- Alum, one pound;
- Chalk, one dram by weight;
- Diſtilled water, one pint.

Boil them a little, ſtrain, and ſet the liquor aſide to cryſtallize.

We have already offered ſome obſervations on alum in the Materia Medica; and in general it comes from the alum works in England in a ſtate of ſuch purity as to be fit for every purpoſe in medicine: accordingly we do not obſerve that the purification of alum has a place in any other pharmacopœia; but by the preſent proceſs it will be freed, not only from different impurities, but alſo from ſuperabundant acid.

ALUMEN USTUM.

Lond. Edin.

Burnt alum.

Take of
- Alum, half a pound.

Burn it in an earthen veſſel ſo long as it bubbles.

This, with ſtrict propriety, ought rather, perhaps, to be called dried alum than burnt alum: for the only effect of the burning here directed is to expel the water. In this ſtate it is ſo acrid as to be frequently employed as an eſcharotic; and it is with this intention, chiefly, that it has a place in our pharmacopœias: but it has ſometimes alſo been taken internally, particularly in caſes of cholic.

SAL ſive SACCHARUM LACTIS.

Suec.

Take of the whey of milk, prepared by runnet, any quantity: let it be boiled over a moderate fire to the conſiſtence of a ſyrup; then put it in a cold place, that cryſtals may be formed. Let the fluid which remains be again managed in the ſame manner, and let the cryſtals formed be waſhed with cold water.

It has been by ſome imagined, that the ſuperiority of one milk over another depends on its containing a larger proportion of this ſaline or ſaccharine part; and particularly, that upon this the reputed virtues of aſs milk depend. Hence this preparation has been greatly celebrated in diſorders of the breaſt, but is far from anſwering what has been expected from it. It has little ſweetneſs, and is difficult of ſolution in water. A ſaline ſubſtance, much better deſerving the name of ſugar, may be obtained by evaporating new milk, particularly that of the aſs, to dryneſs, digeſting the dry matter in water till the water has extracted its ſoluble parts, and then inſpiſſating the filtered liquor. This preparation is of great ſweetneſs, though neither white nor cryſtalline; nor is it perhaps in the pure cryſtallizable parts of milk that its medicinal virtues lie; and ſo little reliance is put upon it as a medicine, that it has no place in the London or Edinburgh pharmacopœias; although it long has ſtood, and ſtill ſtands, in the foreign ones.

SAL ACETOSELLÆ.

Suec.

Salt of ſorrel.

Take any quantity of the expreſſed juice of the leaves of wood-ſorrel; let it boil gently, that the feculent matter may be ſeparated; then ſtrain it till it be clear, and after this boil it on a moderate fire to the conſiſtence of a ſyrup. Put it into long necked glaſs veſſels, and place it in a cold ſituation that it may cryſtallize. Let theſe cryſtals be diſſolved in water, and again formed into purer ones.

To make the ſorrel yield its juice readily, it ſhould be chopt to pieces, and well bruiſed in a ſmall mortar, before it be committed to the preſs. The magma which remains in the bag ſtill retaining no inconſiderable quantity of ſaline matter, may be advantageouſly boiled in water, and the decoction added to the expreſſed juice. The whole may be afterwards depurated together, either by the method above directed, or by running the liquor ſeveral times through a linen cloth. In ſome caſes, the addition of a conſiderable portion of water is neceſſary, that the juice, thus diluted, may part the more freely from its feculencies; on the ſeparation of which the ſucceſs of the proceſs much depends.

The evaporation ſhould be performed either in ſhallow glaſs baſons, or in ſuch earthen ones as are of a compact cloſe texture; ſuch are thoſe uſually called ſtone-ware. The common earthen veſſels are ſubject to have their glazing corroded, and are ſo extremely porous, as readily to imbibe and retain a good quantity of the liquor; metallic veſſels are particularly apt to be corroded by theſe acid kinds of juices.

Theſe juices are ſo viſcid, and abound ſo much with heterogeneous matter, of a quite different nature from any thing ſaline, that a pellicle, or pure ſaline incruſtation

upon

upon the ſurface, is in vain expected. Boerhaave therefore, and the more expert writers in pharmaceutical chemiſtry, with great judgment direct the evaporation of the ſuperfluous moiſture to be continued until the matter has acquired the conſiſtence of cream. If it be now ſuffered to ſtand for an hour or two in a warm place, it will, notwithſtanding the former depurations, depoſite a freſh ſediment, from which it ſhould be warily decanted before it be put into the veſſel in which it is deſigned to be cryſtallized.

Some recommend an unglazed earthen veſſel as preferable for this purpoſe to a glaſs one; the ſmoothneſs of the latter being ſuppoſed to hinder the ſalt from ſticking thereto; whilſt the juice eaſily inſinuating itſelf into the pores of the former, has a great advantage of ſhooting its ſaline ſpicula to the ſides. Others ſlightly incruſtate the ſides and bottom of whatever veſſel they employ with a certain mineral ſalt, which greatly diſpoſes the juice to cryſtallize, to which of itſelf it is very averſe: but this addition is, with regard to its medical virtue, quite different from the ſalt here intended.

The liquor which remains after the cryſtallization may be depurated by a gentle colature, and after due inſpiſſation ſet to ſhoot again; when a farther yield of cryſtals will be obtained.

The proceſs for obtaining this ſalt is very tedious; and the quantity of ſalt which the juices afford is extremely ſmall: hence they are hardly ever made or expected in the ſhops. They may be ſomewhat ſooner ſeparated from the mucilaginous and other feculencies, by clarification with whites of eggs, and by adding very pure white clay.

In the manner above deſcribed, ſalts may be alſo obtained from other acid, auſtere, and bitteriſh plants, which contain but a ſmall quantity of oil.

The virtues of the eſſential ſalts have not been ſufficiently determined from experience. Thus much, however, is certain, that they do not, as has been ſuppoſed, poſſeſs the virtues of the ſubjects entire; excepting only the acids and ſweets. The others ſeem to be, almoſt all of them, nearly ſimilar, whatever plant they were obtained from. In watery extracts of wormwood, carduus, camomile, and many other vegetables, kept for ſome time in a ſoft ſtate, there may be obſerved fine ſaline efflorescences on the ſurface, which have all nearly the ſame taſte, ſomewhat of the nitrous kind. They are ſuppoſed by ſome to be at bottom no more than an impure ſpecies of volatile nitre (that is, a ſalt compoſed of the nitrous acid and volatile alkali): thoſe which were examined by the chemiſts of the French academy deflagrated in the fire, and being triturated with fixt alkali, exhaled an urinous odour; plain marks of their containing thoſe two ingredients.

SAL ACIDUM BORACIS.

Suec.

Acid ſalt of borax.

Take of

Borax, an ounce and a half,

Warm ſpring-water, one pound.

Mix them in a glaſs veſſel, that the borax may be diſſolved; then pour into it three drams of the concentrated acid of vitriol: evaporate the liquor till a pellicle appears upon it; after this let it remain at reſt till the cryſtals be formed. Let them be waſhed with cold water and kept for uſe.

This falt, which has long been known by the title of *Sal fedativus Hombergii*, is not unfrequently formed by fublimation: but the procefs by cryftallization here directed is lefs troublefome, though the falt proves generally lefs white, and is apt likewife to retain a part of Glauber's falt, efpecially if the evaporation be long protracted.

The falt of borax to the tafte appears to be a neutral; but when it is examined by alkalies, it fhows the properties of an acid, effervefcing, uniting, and cryftallizing with them, and it deftroys their alkaline quality. It diffolves both in water and fpirit of wine, although not very readily in either.

The virtues attributed to it may in fome degree be inferred from the name of *fedative*, by which it was long diftinguifhed. It has been fuppofed to be a mild anodyne, to diminifh febrile heat, to prevent or remove delirium; and to allay, at leaft for fome time, fpafmodical affections, particularly thofe which are the attendants of hypochondriafis and hyfteria. It may be given in dofes from two to twenty grains.

SAL AMMONIACUM DEPURATUM.

Suec.

Purified fal ammoniac.

Diffolve fal ammoniac in fpring-water; ftrain the liquor through paper; evaporate it to dryneefs in a glafs veffel by means of a moderate fire.

The fal ammoniac imported from the Mediterranean often contains fuch impurities as to render the above procefs neceffary; but that which is prepared in Britain from foot and fea-falt, is in general brought to market in a ftate of very great purity. Hence this procefs is now altogether omitted both in the London and Edinburgh pharmacopœias. It furnifhes, however, when neceffary, an eafy and effectual mode of obtaining a pure ammonia muriata.

CHAP.

CHAP. VIII.

MAGNESIA.

MAGNESIA.

MAGNESIA ALBA.
Lond.
White magnesia.

Take of
Bitter purging salt,
Kali, each two pounds;
Distilled water, boiling, twenty pints.

Dissolve the bitter salt and the kali separately in ten pints of water, and filter through paper; then mix them. Boil the liquor a little while, and strain it whilst hot through linen, upon which will remain the white magnesia; then wash away, by repeated affusions of distilled water, the vitriolated kali.

MAGNESIA ALBA.
Edinb.
White Magnesia.

Take of
Bitter purging salt,
Purified fixed vegetable alkali, equal weights.

Dissolve them separately in double their quantity of warm water, and let the liquor be strained or otherwise freed from the feces; then mix them, and instantly add eight times their quantity of warm water. Let the liquor boil for a little on the fire, stirring it at the same time; then let it rest till the heat be somewhat diminished; after which strain it through a cloth: the magnesia will remain upon the cloth, and it is to be washed with pure water till it be altogether void of saline taste.

The processes here directed by the London and Edinburgh colleges are nearly the same; but the former seem to have improved somewhat on the latter, both in simplifying the process, and in the employment of distilled water.

The *sal catharticus amarus*, or *Epsom salt*, is a combination of the vitriolic acid and magnesia. In this process then, a double elective attraction takes place: the vitriolic acid forsakes the magnesia and joins to the mild alkali, with which it has a greater attraction; whilst the magnesia in its turn unites with the fixed air discharged from the mild alkali, and ready to be absorbed by any substance with which it can combine.

We have therefore two new products, viz. a vitriolated tartar, and magnesia united with fixed air. The former is dissolved in the water, and may be preserved for use; the latter, as being much less soluble, sinks to the bottom of the vessel.

The intention of employing ſuch a large quantity of water and of the boiling is, that the vitriolated tartar may be all thoroughly diſſolved, this ſalt being ſo ſcantily ſoluble in water, that without this expedient a part of it might be precipitated along with the magneſia. It might perhaps be more convenient to employ the mineral alkali; which forming a Glauber's ſalt with the vitriolic acid, would require leſs water for its ſuſpenſion. By the after ablutions, however, the magneſia is ſufficiently freed of any portion of vitriolated tartar which may have adhered to it.

The ablutions ſhould be made with very pure water; for nicer purpoſes diſtilled water may be uſed with advantage; and ſoft water is in every caſe neceſſary. Hard water for this proceſs is peculiarly inadmiſſible, as the principle in waters giving the property called *hardneſs*, is generally owing to an imperfect nitrous ſelenite, whoſe baſe is capable of being diſengaged by magneſia united with fixed air. For though the attraction of magneſia itſelf to the nitrous acid, is not greater than that of calcareous earths; yet when combined with fixed air, a peculiar circumſtance intervenes, whereon it is deducible, that the ſum of the forces tending to join the calcareous earth with the air of the magneſia, and the magneſia with the acid, is greater than the ſum of the forces tending to join the calcareous earth with the acid, and the magneſia with the fixed air.

This phenomenon muſt therefore depend on the preſence of fixed air, and its greater attraction for lime than for magneſia. On this account, if hard water be uſed, a quantity of calcareous earth muſt infallibly be depoſited on the magneſia; whilſt the nitrous acid with which it was combined in the water, ſhall in its turn attach itſelf to a portion of the magneſia, forming what may be called a *nitrous magneſia*.

All the alkalies and alſo calcareous earths, have a greater attraction for fixed air than magneſia has: Hence, if this laſt be precipitated from its ſolution in acids by cauſtic alkali, it is then procured free of fixed air; but for this purpoſe calcination is more generally employed in the manner deſcribed in the proceſs which next follows. Magneſia is ſcarcely ſoluble in any quantity whatever in water: the infinitely ſmall portion which this fluid is capable of taking up, is owing to the fixed air of the magneſia; and it has been lately diſcovered, that water impregnated with this acid is capable of diſſolving a conſiderable portion: for this purpoſe it is neceſſary to employ magneſia already ſaturated with fixed air, as magneſia deprived of this air would quickly abſtract it from the water, whereby the force of the latter would be very conſiderably diminiſhed. Such a ſolution of magneſia might be uſeful for ſeveral purpoſes in medicine.

MAGNESIA is the ſame ſpecies of earth with that obtained from the mother-ley of nitre, which was for ſeveral years a celebrated ſecret in the hands of ſome particular perſons abroad. Hoffman, who deſcribes the preparation of the nitrous magneſia, gives it the character of an uſeful antacid, a ſafe and inoffenſive laxative in doſes of a dram or two, and a diaphoretic and diuretic when given in ſmaller doſes of fifteen or twenty grains. Since his time, it has had a conſiderable place in the practice of foreign phyſicians; and is now in great eſteem among us, par-

particularly in heart-burns, and for preventing or removing the many disorders which children are so frequently thrown into from a redundance of acid humours in the first passages: It is preferred, on account of its laxative quality, to the common absorbents, which, unless gentle purgatives be given occasionally to carry them off, are apt to lodge in the body, and occasion a costiveness very detrimental to infants.

Magnesia alba, when prepared in perfection, is a white and very subtile earth, perfectly void of smell or taste, of the class of those which dissolve in acids. It dissolves freely even in the vitriolic acid; which, in the common way of making solutions, takes up only an inconsiderable portion of other earths. Combined with this acid, it forms the bitter purging, or Epsom salt, very easily soluble in water; while the common absorbents form with the same acid almost insipid concretes, very difficult of solution. Solutions of magnesia in all acids are bitter and purgative; while those of the other earths are more or less austere and astringent. A large dose of magnesia, if the stomach contain no acid to dissolve it, does not purge or produce any sensible effect: a moderate one, if an acid be lodged there, or if acid liquors are taken after it, procures several stools; whereas the common absorbents, in the same circumstances, instead of loosening, bind the belly. It is obvious, therefore, that magnesia is specifically different from the other earths, and that it is applicable to useful purposes in medicine.

Magnesia was formerly made with the mother-water of nitre evaporated to dryness, or precipitated by a fixed alkali. It has gone under different names, as the *White powder of the Count of Palma*, *Powder of Sentinelle*, *Polychrest*, *Laxative powder*, &c. It seems to have got the character *alba*, to distinguish it from the dark coloured mineral called also *magnesia*, or *manganese*; a substance possessing very different properties. We have not heard that pure native magnesia has been found in its uncombined state: A combination of it with sulphur has been discovered to cover a stratum of coal at Littry in Lower Normandy. It has also been found in certain serpentine earths in Saxony, and in marly and alum earths.

MAGNESIA USTA.

Lond.

Calcined magnesia.

Take of

White magnesia, four ounces.

Expose it to a strong heat for two hours; and, when cold, set it by. Keep it in a vessel closely stopt.

MAGNESIA USTA.

Edin.

Calcined magnesia.

Let magnesia, placed in a crucible, be continued in a red heat for two hours; then put it up in close glass vessels.

By this process the magnesia is freed of fixed air; which, according to Dr Black's experiments, constitutes about $\frac{7}{12}$ of its weight. A kind of opaque foggy vapour is observed to escape during the calcination, which is nothing else than a quantity of fine particles of magnesia buoyed off along with a stream of the disengaged air. About the end of the operation, the magnesia exhibits a kind of luminous, or phosphorescent property; and this may be considered as a pretty exact criterion of its being deprived of air.

Calcined magneſia is equally mild as when ſaturated with fixed air; and this circumſtance is ſufficient to eſtabliſh a difference between it and calcareous earths; all of which are converted, by calcination, into a cauſtic quicklime.

The magneſia uſta is uſed for the ſame general purpoſes as the magneſia combined with fixed air. In certain affections of the ſtomach, accompanied with much flatulence, the calcined magneſia is found preferable, not only as containing more of the real earth of magneſia in a given quantity, but as being alſo deprived of its air. It neutralizes the acid of the ſtomach, without that extrication of air, which is often a troubleſome conſequence in employing the aërated magneſia in theſe complaints. It is proper to obſerve, that magneſia, whether combined with, or deprived of fixt air, is ſimilar to the mild calcareous earths in promoting and increaſing putrefaction. The ſame has even been obſerved with reſpect to the Epſom and ſome other ſalts which have this earth for their baſe.

CHAP. IX.

PREPARATA E SULPHURE.

PREPARATIONS OF SULPHUR.

FLORES SULPHURIS LOTI.

Lond.

Waſhed flowers of ſulphur.

Take of

Flowers of ſulphur, one pound;
Diſtilled water, four pints.

Boil the flowers of ſulphur a little while in the diſtilled water; then pour off this water, and waſh off the acid with cold water; laſtly, dry the flowers.

In the former editions of our pharmacopœias, directions were given for the preparation of the flowers of ſulphur themſelves: But as a large apparatus is neceſſary for doing it with any advantage, it is now almoſt never attempted by the apothecaries. When the flowers are properly prepared, no change is made on the qualities of the ſulphur. Its impurities only are ſeparated; and at the ſame time it is reduced to a finer powder than it can eaſily be brought to by any other means. But as the flowers of ſulphur are generally ſublimed into very capacious rooms, which contain a large quantity of air, or in veſſels not perfectly cloſe; ſome of thoſe that ariſe at firſt are apt to take fire, and thus are changed into a volatile acid vapour, which mingling with the flowers that ſublime afterwards, communicates to them a conſiderable degree of acidity. In this caſe, the ablution here directed is for the general uſe of the medicine abſolutely neceſ-

ſary-

ſary; for the flowers, thus tainted with acid, ſometimes occaſion gripes, and may, in other reſpects, be productive of effects different from thoſe of pure ſulphur. There are, however, ſome particular combinations, to which they are ſuppoſed to be better adapted when unwaſhed, ſuch as their union with mercury into æthiops mineral; and accordingly for that preparation the unwaſhed flowers are directed by the London college.

KALI SULPHURATUM.

Lond.

Sulphurated kali.

Take of
Flowers of ſulphur, one ounce;
Kali, five ounces.
Mix the ſalt with the melted ſulphur, by frequently ſtirring, until they unite into an uniform maſs.

This preparation in the former editions of our pharmacopœias had the name of *hepar ſulphuris*.

It is much more convenient to melt the ſulphur firſt by itſelf, and add the ſalt of tartar by degrees, as here directed, than to grind them together, and afterwards endeavour to melt them as ordered in former editions; For in this laſt caſe the mixture will not flow ſufficiently thin to be properly united by ſtirring; and the ſulphur either takes fire, or ſublimes in flowers; which probably has been the reaſon why ſo large a proportion of it has been commonly directed. Even in the preſent method a conſiderable part of the ſulphur will be diſſipated; and if it were not, the hepar would not be of its due quality: for one part of ſulphur requires two of the alkaline ſalt to render it perfectly ſoluble in water, which this preparation ought to be.

The hepar ſulphuris has a fetid ſmell, and a nauſeous taſte. Solutions of it in water, made with ſugar into a ſyrup, have been recommended in coughs and other diſorders of the breaſt. Our Pharmacopœias, nevertheleſs, have deſervedly rejected this ſyrup, as common practice has almoſt done the balſams. Solutions of the hepar, in water, have been alſo recommended in herpetic and other cutaneous affections. Some phyſicians have even employed this ſolution, in a large quantity, as a bath for the cure of pſora; and in caſes of tenea capitis, it has often been uſed by way of lotion.

The hepar, digeſted in rectified ſpirit of wine, imparts a rich gold colour, a warm, ſomewhat aromatic taſte, and a peculiar, not ungrateful ſmell: A tincture of this kind is kept in the ſhops under the name of another mineral. The hepar ſulphuris has been by ſome ſtrongly recommended to prevent the effects of mineral poiſons.

OLEUM SULPHURATUM ET PETROLEUM SULPHURATUM.

Lond.

Sulphurated oil and ſulphurated petroleum.

Take of
Flowers of ſulphur, four ounces;
Olive oil, ſixteen ounces.
Boil the flowers of brimſtone, with the oil, in a pot ſlightly covered, until they be united.
In the ſame manner is made *ſulphurated petroleum.*

These articles are analogous to what had formerly a place in our pharmacopœias under the titles of *balſamum ſulphuris ſimplex, craſſum et Barbadenſe.* And beſides theſe,

a place was alſo given to the balſamum ſulphuris aniſatum, terebinthinatum, &c. While theſe articles, however, are now baniſhed from our pharmacopœias, even thoſe retained are leſs in uſe than formerly.

Theſe preparations are more conveniently and ſafely made in a tall glaſs body, with the mouth at leaſt an inch in diameter, than in the circulatory or cloſe veſſels in which they have commonly been directed to be prepared: for when the ſulphur and oil begin to act vehemently upon each other, they not only rarify into a large volume, but likewiſe throw out impetuouſly great quantities of an elaſtic vapour; which, if the veſſels be cloſed, or the orifices not ſufficient to allow it a free exit, will infallibly burſt them: Hoffman relates a very remarkable hiſtory of the effects of an accident of this kind. In the veſſel above recommended, the proceſs may be completed, without danger, in four or five hours, by duly managing the fire, which ſhould be very gentle for ſome time, and afterwards increaſed ſo as to make the oil juſt bubble or boil; in which ſtate it ſhould be kept till all the ſulphur appears to be taken up.

Eſſential oils employed as menſtrua for ſulphur, undergo a great alteration from the degree of heat neceſſary for enabling them to diſſolve the ſulphur; and hence the balſams have not near ſo much of their flavour as might be expected. It ſhould therefore ſeem more eligible to add a proper quantity of the eſſential oil to the ſimple balſam; theſe readily incorporate by a gentle warmth, if the veſſel be now and then ſhaken. We may thus compoſe a balſam more elegant than thoſe made in the manner formerly recommended, and which retains ſo much of the flavour of the oil, as is in ſome meaſure ſufficient to cover the taſte of the ſulphur, and render it ſupportable.

The balſams of ſulphur have been ſtrongly recommended in coughs, conſumptions, and other diſorders of the breaſt and lungs: But the reputation which they have had in theſe caſes, does not appear to have been built upon any fair trial or experience of their virtues. They are manifeſtly hot, acrimonious, and irritating; and therefore ſhould be uſed with the utmoſt caution. They have frequently been found to injure the appetite, offend the ſtomach and viſcera, parch the body, and occaſion thirſt and febrile heats. The doſe of the ſimple balſam is from ten to forty drops: thoſe with eſſential oils are not given in above half theſe quantities. Externally, they are employed for cleanſing and healing foul running ulcers. Boerhaave conjectures, that their uſe in theſe caſes gave occaſion to the virtues aſcribed to them when taken internally.

SULPHUR PRÆCIPITATUM.

Lond.

Precipitated ſulphur.

Take of
- Sulphurated kali, ſix ounces;
- Diſtilled water, one pound and an half;
- Vitriolic acid, diluted, as much as is ſufficient.

Boil the ſulphurated kali in the diſtilled water until it be diſſolved. Filter the liquor through paper, to which add the vitriolic acid. Waſh the precipitated powder by often pouring on water till it becomes inſipid.

This preparation is not ſo white as that of the laſt pharmacopœia, which

which was made with quicklime; and which in ſome pharmacopœias had the name *lac ſulphuris*.

Pure lac ſulphuris is not different in quality from pure ſulphur itſelf: to which it is preferred in unguents, &c. only on account of its colour. The whiteneſs does not proceed from the ſulphur having loſt any of its parts in the operation, or from any new matter ſuperadded: for if common ſulphur be ground with alkaline ſalts, and ſet to ſublime, it ariſes of a like white colour, the whole quantity of the alkali remaining unchanged; and if the lac be melted with a gentle fire, it returns into yellow ſulphur again.

It may be obſerved, that the name *lac ſulphuris*, or *milk of ſulphur*, applied among us to the precipitate, is by the French writers confined to the white liquor before the precipitate has fallen from it.

CHAP. X.

PREPARATA ET ANTIMONIS.

PREPARATIONS OF ANTIMONY.

ANTIMONY is compoſed of a metal, united with ſulphur or common brimſtone.

If powdered antimony be expoſed to a gentle fire, the ſulphur exhales; the metallic part remaining in form of a white calx, reducible, by proper fluxes, into a whitiſh brittle metal, called *regulus*. This is readily diſtinguiſhed from the other bodies of that claſs, by its not being ſoluble in aquafortis; its proper menſtruum is aqua regia.

If aqua regia be poured upon crude antimony, the metallic part will be diſſolved; and the ſulphur thrown out, partly to the ſides of the veſſel, and partly to the ſurface of the liquor, in the form of a greyiſh yellow ſubſtance. This, ſeparated and purified by ſublimation, appears on all trials the ſame with pure common brimſtone.

The metal, freed from the ſulphur naturally blended with it, and afterwards fuſed with common brimſtone, reſumes the appearance and qualities of crude antimony.

THE antimonial metal is a medicine of the greateſt power of any known ſubſtance; a quantity too minute to be ſenſible on the tendereſt balance, is capable of producing virulent effects, if taken diſſolved, or in a ſoluble ſtate. If given in ſuch a form as to be immediately miſcible with the animal fluids, it proves violently emetic; if ſo managed as to be more ſlowly acted on, cathartic; and in either caſe, if the doſe be extremely ſmall, diaphoretic. Thus, though vegetable

table acids extract ſo little from this metal, that the remainder ſeems to have loſt nothing of its weight, the tinctures prove in no large doſes ſtrongly emetic, and in ſmaller ones powerfully diaphoretic. The regulus has been caſt into the form of pills, which acted as virulent cathartics, though without ſuffering any ſenſible diminution of weight in their paſſage through the body; and this repeatedly, for a great number of times.

This metal, diveſted of the inflammable principle which it has in common with other metallic bodies that are reduced to a calx, becomes indiſſoluble and inactive. The calx nevertheleſs, urged with a ſtrong fire, melts into a glaſs, which is as eaſy of ſolution, and as virulent in operation, as the regulus itſelf: the glaſs, thoroughly mingled with ſuch ſubſtances as prevents its ſolubility, as wax, reſins, and the like, is again rendered mild.

Vegetable acids, as has already been obſerved, diſſolve but an extremely minute portion of this metal: the ſolution nevertheleſs proves powerfully emetic and cathartic. The nitrous and vitriolic acids only corrode it into a powder, to which they adhere ſo ſlightly as to be ſeparable in a conſiderable degree by water, and totally by fire, leaving the regulus in form of a calx ſimilar to that prepared by fire alone. The marine acid has a very different effect; this reduces the regulus into a violent corroſive; and though it difficultly unites, yet very cloſely adheres to it, inſomuch as not to be ſeparable by any ablution, nor by fire, the regulus ariſing along with it. The nitrous or vitriolic acids expel the marine, and thus reduce the corroſive into a calx ſimilar to the foregoing.

Sulphur remarkably abates the power of this metal: and hence crude antimony, in which the regulus appears to be combined with ſulphur, from one-fourth to one-half its weight, proves altogether mild. If a part of the ſulphur be taken away, by ſuch operations as do not deſtroy or calcine the metal, the remaining maſs becomes proportionably more active.

The ſulphur of antimony may be expelled by deflagration with nitre: the larger the quantity of nitre, to a certain point, the more of the ſulphur will be diſſipated, and the preparation will be the more active. If the quantity of nitre be more than ſufficient to conſume the ſulphur, the reſt of it, deflagrating with the inflammable principle of the regulus itſelf, renders it again mild.

The ſulphur of antimony is likewiſe abſorbed, in fuſion, by certain metals, and by alkaline ſalts. Theſe laſt, when united with ſulphur, prove a menſtruum for all the metals (zinc excepted); and hence, if the fuſion be long continued, the regulus is taken up, and rendered ſoluble in water.

From theſe particulars with reſpect to antimony, it may naturally be concluded, that it not only furniſhes us with an uſeful and active medicine, but that it may alſo be exhibited for medical purpoſes under a great variety of different forms, and that the effects of theſe will be conſiderably diverſified. And this has in reality been the caſe. When treating of antimony in the materia medica, we have not only offered ſome obſervations on its medical, but have alſo exhibited a view of its different preparations for medical purpoſes, thrown into a tabular form by Dr Black. But although

though there is perhaps no preparation there mentioned, which is not fitted to serve some useful purpose; yet the colleges both of London and Edinburgh have now restricted the number of preparations in their pharmacopœias to a few only. And it is highly probable, that from the proper employment of these every useful purpose to be answered by antimony may be accomplished.

ANTIMONIUM CALCINATUM.

Lond.

Calcined antimony.

Take of

Antimony, powdered, eight ounces.

Nitre, powdered, two pounds.

Mix them, and cast the mixture by degrees into a red hot crucible. Burn the white matter about half an hour; and, when cold, powder it; after which wash it with distilled water.

In the last edition of the London Pharmacopœia this preparation had the name of *calx antimonii;* and it may be considered as at least very nearly approaching to some other antimonials of the old pharmacopœias, particularly to the antimonium diaphoreticum nitratum, antimonium diaphoreticum lotum, and the nitrum stibiatum; none of which are now received as separate formulas of our pharmacopœia, and indeed even the calx antimonii itself, at least as thus prepared, has now no place in the Edinburgh pharmacopœia.

The calx of antimony, when freed by washing from the saline matter, is extremely mild, if not altogether inactive. Hoffman, Lemery, and others, assure us, that they have never experienced from it any such effects as its usual title imports: Boerhaave declares, that it is a mere metallic earth, entirely destitute of all medicinal virtue: and the Committee of the London College admit, that it has no sensible operation. The common dose is from five grains to a scruple, or half a dram; though Wilson relates, that he has known it given by half ounces, and repeated two or three times a-day, for several days together.

Some report, that this calx, by keeping for a length of time, contracts an emetic quality: From whence it has been concluded, that the powers of the reguline part are not entirely destroyed; that the preparation has the virtues of other antimonials which are given as alteratives; that is, in such small doses as not to stimulate the primæ viæ; and that therefore diaphoretic antimony, or calcined antimony, as it is now more properly styled, is certainly among the mildest preparations of that mineral, and may be used for children, and similar delicate constitutions where the stomach and intestines are easily affected. The observation, however, from which these conclusions are drawn, does not appear to be well founded: Ludovici relates, that after keeping the powder for four years, it proved as mild as at first: and the Strasburgh pharmacopœia, with good reason, suspects, that where the calx has proved emetic, it had either been given in such cases as would of themselves have been attended with this symptom, for the great alexipharmac virtues attributed to it have occasioned it to be exhibited even in the more dangerous malignant fevers, and other disorders which are frequently accompanied with vomiting; or that it had not been sufficiently calcined, or perfectly freed from such part of the regulus as might remain uncalcined. The un-

uncalcined part being groſſer than the true calx, the ſeparation is effected by waſhing over with water, in the ſame manner as directed for ſeparating earthy powders from their groſſer parts.

It has been obſerved, that when diaphoretic antimony is prepared with nitre abounding with ſea-ſalt, of which all the common nitre contains ſome portion, the medicine has proved violently emetic. This effect is not owing to any particular quality of the ſea-ſalt, but to its quantity, by which the proportion of the nitre to the antimony is rendered leſs.

The *nitrum ſtibiatum*, as it was called, is produced by the deflagration of the ſulphur of the antimony with the nitre, in the ſame manner as the *ſal polychreſt*, from which it differs no otherwiſe than in retaining ſome portion of the antimonial calx.

Notwithſtanding the doubts entertained by ſome reſpecting the activity of the antimonium calcinatum, yet the London college have in our opinion done right in retaining it. For while it is on all hands allowed, that it is the mildeſt of our antimonials; there are ſome accurate obſervers who conſider it as by no means inefficacious. Thus Dr Healde tells us, that he has been in the habit of employing it for upwards of forty years, and is much deceived, if when genuine, it be not productive of good effects.

CALX ANTIMONII NITRATA.

Edinb.

Nitrated calx of antimony.

Take of

Antimony, calcined for making the glaſs of antimony;

Nitre, equal weights.

Having mixed, and put them into a crucible, let them be toaſted, ſo that the matter ſhall be of a red colour for an hour; then let it be taken out of the crucible, and, after beating it, waſh it repeatedly with warm water till it be inſipid.

Although this preparation agrees nearly in name with the preceding, and has been conſidered as being nearly a complete calx of antimony, yet there can be no doubt that it is a medicine of a much more active nature than the former; and in place of being one of the mildeſt of the antimonials, it often operates with great violence when given in doſes of a few grains only.

But as the effects of every preparation of antimony, not already conjoined with an acid, muſt depend on the quantity and condition of the acid in the ſtomach, ſo the ablution of the baſe of the nitre in this proceſs, gives full power to the acid of the ſtomach to act as far as poſſible on the calx; whereas when the unwaſhed calx is employed, a great quantity of the acid in the ſtomach is neutralized by the alkaline baſe of the nitre adhering to the calx. The *calx antimonii nitrata* is ſuppoſed to be nearly the ſame with the article which has been ſo much celebrated, and has had ſuch an extenſive ſale under the title of *Dr James's fever powder*. And it was as an article which might be employed in the place of James's powder, that the Edinburgh college introduced this into their pharmacopœia. There is, however, reaſon to believe, that the preparation of James's powder is ſomewhat different from that here directed; but their effects, as far as our obſervation goes, appear to be very nearly the ſame.

The *calx antimonii nitrata* has been thought by ſome preferable to emetic

emetic tartar, where the permanent effects of a long-continued naufea are required, and where we wifh our antimonials to pafs the pylorus and produce purging. But, like every other preparation where the reguline part is only rendered active by the acid in the ftomach, the *calx antimonii nitrata* is in all cafes of uncertain operation: fometimes proving perfectly inert, and at other times very violent in its effects. The dofe is generally ten or twelve grains, and this is often given all at once; an inconvenience not attending the emetic tartar; the quantity and effects of which we can generally meafure with furprifing minutenefs.

There is, however, reafon to believe, that by means of James's powder, and the calx nitrata, an artificial termination of fever is fometimes accomplifhed, and that too more frequently than by emetic tartar. This perhaps may fometimes be the confequence of the violence with which they operate. At the fame time it muft be admitted, that even the moft violent operation by no means enfues an immediate recovery, but that on the contrary it is fometimes manifeftly attended with bad effects.

CROCUS ANTIMONII.

Lond.

Crocus of antimony.

Take of
- Antimony, powdered;
- Nitre, powdered, of each one pound;
- Sea-falt, one ounce.

Mix, and put them by degrees into a red-hot crucible, and melt them with an augmented heat. Pour out the melted matter; and, when cold, feparate it from the fcoriæ.

Edinb.

The mixture of antimony and nitre, made as above, is to be injected by degrees into a red-hot crucible; when the detonation is over, feparate the reddifh metallic matter from the whitifh cruft; beat it into a powder, and edulcorate it by repeated wafhings with hot water, till the water comes off infipid.

Here the antimonial fulphur is almoft totally confumed, and the metallic part left divefted of its corrector. Thefe preparations, given from two to fix grains, generally act as violent emetics, greatly difordering the conftitution. But the operation, like that of every preparation of antimony whofe reguline part is not joined with an acid, muft be liable to variations, according to the quantity and condition of the acid in the ftomach. Their principal ufe is in maniacal cafes, as the bafis of fome other preparations; and among the farriers, who frequently give to horfes an ounce or two a day, divided into different dofes as an alterative: in thefe, and other quadrupeds, this medicine acts chiefly as a diaphoretic.

The chemifts have been accuftomed to make the crocus with a lefs proportion of nitre than what is directed above; and without any farther melting than what enfues from the heat which the matter acquires by deflagration, which when the quantity is large, is very confiderable: a little common falt is added to promote the fufion. The mixture is put by degrees into an iron pot or mortar, fomewhat heated, and placed under a chimney: when the firft ladleful is in, a piece of lighted charcoal is thrown to it, which fets the matter on fire; the

reſt of the mixture is then added by little and little; the deflagration is ſoon over, and the whole appears in perfect fuſion: when cold, a conſiderable quantity of ſcoriæ is found upon the ſurface; which ſcoriæ are eaſily knocked off with a hammer. The crocus prepared after this manner, is of a redder colour than that of the former editions of the London pharmacopœia. And indeed the method now directed by the London college may be conſidered as founded on this: It differs principally from that of the Edinburgh college in the employment of the ſea-ſalt, by which the proceſs is much facilitated.

ANTIMONIUM MURIATUM.

Lond.

Muriated antimony.

Take of

The crocus of antimony, powdered;

Vitriolic acid, each one pound;

Dry ſea-ſalt, two pounds.

Pour the vitriolic acid into a retort, adding by degrees the ſea-ſalt and crocus of antimony, previouſly mixed; then diſtil in a ſand-bath. Let the diſtilled matter be expoſed to the air ſeveral days, and then let the fluid part be poured off from the dregs.

CAUSTICUM ANTIMONIALE vulgo BUTYRUM ANTIMONII.

Edinb.

Butter of antimony.

Take of

Crude antimony, one part;

Corroſive mercury ſublimate, two parts.

Grind them firſt ſeparately; then thoroughly mix them together, taking the utmoſt care to avoid the vapours. Put the mixture into a coated glaſs retort (having a ſhort wide neck), ſo as to fill one half of it: the retort being placed in a ſand-furnace, and a receiver adapted to it, give firſt a gentle heat, that only a dewy vapour may ariſe: the fire being then increaſed, an oily liquor will aſcend and congeal in the neck of the retort, appearing like ice, which is to be melted down by a live-coal cautiouſly applied. This oily matter is to be rectified in a glaſs retort into a pellucid liquor.

The proceſs here directed by the Edinburgh college, and which is nearly the ſame with what ſtood in the former edition of the London pharmacopœia, is extremely dangerous, inſomuch, that even the life of the operator, though tolerably verſed in common pharmacy, may be much endangered for want of due care. Boerhaave relates, that one, who from the title he gives him is not to be ſuppoſed inexpert in chemical operations, or unacquainted with the danger attending this, was ſuffocated for want of proper care to prevent the burſting of the retort. The fumes which ariſe, even upon mixing the antimony with the ſublimate, are highly noxious, and ſometimes iſſue ſo copiouſly and ſuddenly, as very difficultly to be avoided. The utmoſt circumſpection therefore is neceſſary.

The cauſtic, or butter, as it is called, appears to be a ſolution of the metallic part of the antimony in the marine acid of the ſublimate: the ſulphur of the antimony, and the mercury of the ſublimate, remain at the bottom of the retort, united into an ethiops. This ſolution does not ſucceed with ſpirit of

ſalt

ſalt in its liquid ſtate, and cannot be effected, unleſs (as in the caſe of making ſublimate) either the acid be highly concentrated, and both the ingredients ſtrongly heated; or when the antimony is expoſed to the vapours of the acid diſtilled from the black calx of manganeſe. By this laſt proceſs a perfect ſolution of the regulus of antimony in the muriatic acid is effected. Of this more ſimple, more ſafe, and leſs expenſive method of preparing muriated antimony, an account is given by Mr Ruſſel in the Tranſactions of the Royal Society of Edinburgh.

If regulus of antimony were added in the diſtillation of ſpirit of ſea-ſalt without water, a ſolution would alſo be made.

The method, however, now directed by the London college, in which vitriolic acid and ſea-ſalt are employed to give a double elective attraction, is perhaps to be conſidered as preferable to any of the others. In this they have followed very nearly the directions given in the Pharmacopœia Suecica, which are taken from the proceſs of Mr Scheele.

When the congealed matter that ariſes into the neck of the retort is liquified by the moiſture of the air, it proves leſs corroſive than when melted down and rectified by heat; though, it ſeems, in either caſe, to be ſufficiently ſtrong for the purpoſes it is intended for, as the conſuming of fungous fleſh and the callous lips of ulcers. It is remarkable, that though this ſaline concrete readily and almoſt entirely diſſolves by the humidity of the air, only a ſmall quantity of white powder ſeparating, it nevertheleſs will not diſſolve on putting water to it directly: even when previouſly liquified by the air, the addition of water will precipitate the ſolution. And accordingly, by the addition of water is formed that once celebrated article known by the title of *mercurius vitæ*, or *Algeroth's powder*. This preparation, although not now uſed by itſelf, is employed both by the Edinburgh college and alſo by ſome of the foreign ones, in the formation of emetic tartar, the moſt uſeful of all the antimonials. And although chemiſts are not altogether agreed with regard to the beſt mode of forming the antimonium tartarizatum, yet we ſhall afterwards have occaſion to obſerve, when treating of that article, the preparation of it from the antimonium muriatum, or rather from its precipitate: Algerith's powder is perhaps the beſt mode which has yet been prepared. And were it even with no other intention, a ſafe, eaſy, and cheap method, of forming an antimonium muriatum, may be conſidered as an important improvement in our pharmacopœias.

PULVIS ANTIMONIALIS.

Lond.

Antimonial powder.

Take of
- Antimony, coarſely powdered,
- Hartſhorn-ſhavings, each two pounds;

Mix, and put them into a broad red-hot iron pot, ſtirring conſtantly till the maſs acquires a grey colour. Powder the matter when cold, and put it into a coated crucible. Lute to it another crucible inverted, which has a ſmall hole in its bottom: augment the fire by degrees to a red heat, and keep it ſo for two hours. Laſtly, reduce the matter, when cold, to a very fine powder.

In this preparation, the metallic part of the antimony in a ſtate

of calx, will be united with that part of the hartshorn which is indistructible by the action of fire, viz. its absorbent earth. If this powder be properly prepared, it is of a white colour. It is a mild antimonial preparation, and is given as an alterative from three to six grains for a dose. In this quantity, however, it sometimes creates nausea, and even vomits. In larger doses it proves emetic, and operates by stool.

SULPHUR ANTIMONII PRÆCIPITATUM.

Lond.

Precipitated sulphur of antimony.

Take of

Antimony, powdered, two pounds;
Water of pure kali, four pints;
Distilled water, three pints.

Mix, and boil them with a slow fire for three hours, constantly stirring, and adding the distilled water as it shall be wanted; strain the hot ley through a double linen cloth, and into the liquor, whilst yet hot, drop by degrees as much diluted vitriolic acid as is sufficient to precipitate the sulphur. Wash off, with warm water, the vitriolated kali.

SULPHUR ANTIMONII PRÆCIPITATUM, vulgo SULPHUR AURATUM ANTIMONII.

Edinb.

Golden sulphur of antimony.

Boil, in an iron pot, four pounds of caustic ley diluted with three pints of water, and throw in by degrees two pounds of powdered antimony; keeping them continually stirring, with an iron spatula, for three hours, over a gentle fire, and occasionally supplying more water. The liquor loaded with the sulphur of antimony being then strained through a woollen cloth, drop into it gradually, whilst it continues hot, so much spirit of nitre, diluted with an equal quantity of water, as shall be sufficient to precipitate the sulphur, which is afterwards to be carefully washed with hot water.

The foregoing preparations are not strictly sulphurs; they contain a considerable quantity of the metallic part of the antimony, which is reducible from them by proper fluxes. These medicines must needs be liable to great variation in point of strength; and in this respect they are, perhaps, the most precarious, though some have affirmed that they are the most certain of the antimonial medicines.

They prove emetic when taken on an empty stomach, in a dose of four, five, or six grains; but in the present practice they are scarce prescribed with this intention; being chiefly used as alterative deobstruents, particularly in cutaneous disorders. Their emetic quality is easily blunted, by making them up into pills with resins or extracts, and giving them on a full stomach: with these cautions, they have been increased to the rate of sixteen grains a-day, and continued for a considerable time, without occasioning any disturbance upwards or downwards. As their strength is precarious, they should be taken at first in very small doses, and increased by degrees according to their effect.

A composition of the sulphur auratum, with mercurius dulcis, has been found a powerful, yet safe alterative, in cutaneous disorders; and has completed a cure after salivation had failed. In venereal cases, likewise, this medicine has produced excellent effects. A mixture of equal parts of the sulphur and calomel (well triturated together and made

made into pills with extracts, &c.) may be taken from four to eight or ten grains, morning and night; the patient keeping moderately warm, and drinking after each dose a draught of a decoction of the woods, or other like liquors. This medicine generally promotes perspiration, scarce occasioning any tendency to vomit or purge, or affecting the mouth.

ANTIMONIUM TARTARISATUM.

Lond.

Tartarised antimony.

Take of

Crocus of antimony, powdered, one pound and an half;

Crystals of tartar, two pounds;

Distilled water, two gallons.

Boil in a glass vessel about a quarter of an hour: filter through paper, and set aside the strained liquor to chrystallize.

TARTARUS ANTIMONIALIS vulgo TARTARUS EMETICUS.

Edin.

Emetic tartar.

Take of

The causticum antimoniale what quantity you choose; pour it into warm water, in which so much of the purified vegetable fixed alkali has been previously dissolved, that the antimonial powder may be precipitated, which after being well washed is to be exsiccated.

Then to five pounds of water add of this powder nine drams, of crystals of tartar, beat into a very fine powder, two ounces and a half; boil for a little till the powders be dissolved.

Let the strained solution be slowly evaporated in a glass vessel to a pellicle, so that crystals may be formed.

We have here two modes of forming the most common, and perhaps we may add the most useful, of all the antimonial preparations what has been long known in the shops under the name of *emetic tartar*. These modes differ considerably from each other; but in both, the reguline part of the antimony is united with the acid of the tartar. It is perhaps difficult to say to which mode of preparation the preference is to be given; for on this subject the best chemists are still divided in their opinion. The mode directed by the London college is nearly the same with that in former editions of their Pharmacopœia, while that now adopted by the Edinburgh college, in which they have nearly followed the Pharmacopœia Rossica, is of later date. That in both ways good emetic tartar may be formed, is very certain: But in our opinion, when it is formed of the precipitate from the muriatic acid, or the *poudre d'Algerotti*, as it has been called, there is the least chance of its being uncertain in its operation: and this method comes recommended to us on the authority of Bergman, Scheele, and some other of the first names in chemistry. Bergman advises, that the calx be precipitated by simple water, as being least liable to variation; and this is the direction followed in the Pharmacopœia Rossica. But when the calx is precipitated by an alkaline ley, as is directed by the Edinburgh college, it is more certainly freed from the muriatic acid, and will of course be milder.

In the after part of the process, whether precipitate or crocus have been used, the quantity of the antimonial ought always to be some drams more than is absolutely necessary for saturating the acid of tartar, so that no crystals may shoot which are not impregnated with the active metallic part of the antimony.

And in order to secure an uniform strength, some attention is necessary in collecting the crystals, as some may contain more metal than others. After they are all separated from the liquor, they ought to be beat together in a glass mortar into a fine powder, whereby the medicine may be of uniform strength

Emetic tartar is, of all the preparations of antimony, the most certain in its operation.

It will be sufficient, in considering the medicinal effects of antimonials, that we should observe, once for all, that their emetic property depends on two different conditions of the reguline part: the first is where the reguline part is only active, by being rendered so from meeting with an acid in the stomach: the second is, where the reguline part is already joined with an acid, rendering it active. It is obvious, that those preparations, reducible to the first head, must always be of uncertain operation. Such then is the equal uncertainty in the chemical condition and medicinal effects of the croci, the hepata, and the calces; all of which processes are different steps or degrees of freeing the reguline part from sulphur and phlogiston. It is equally plain, that the preparations coming under the second head, must be always constant and certain in their operation. Such a one is emetic tartar, the dose and effects of which we can measure with great exactness.

The title of this medicine expresses its principal operation. It is one of the best of the antimonial emetics, acting more powerfully than the quantity of crocus contained in it would do by itself, though it does not so much ruffle the constitution. And indeed antimonials in general, when thus rendered soluble by vegetable acids, are more safe and certain in their effects than the violent preparations of that mineral exhibited by themselves; the former never varying in their action from a difference in the food taken during their use, or other similar circumstances; which occasioning more or less of the others to be dissolved, make them operate with different degrees of force. Thus, crude antimony, where acid food has been liberally taken, has sometimes proved violently emetic; whilst, in other circumstances, it has no such effect.

The dose of emetic tartar, when designed to produce the full effect of an emetic, is from two to four grains. It may likewise be advantageously given in much smaller doses, as a nauseating and sudorific medicine.

ANTIMONIUM VITRIFICATUM.

Lond.

Vitrified antimony.

Take of

Powdered antimony, four ounces.

Calcine it in a broad earthen vessel, with a fire gradually raised, stirring with an iron rod until it no longer emits a sulphureous smoke. Put this powder into a crucible, so as to fill two-thirds of it. A cover being fitted on, make a fire under it, at first moderate, afterwards stronger, until the matter be melted. Pour out the melted glass.

VITRUM ANTIMONII.

Edin.

Glass of antimony.

Strow antimony, beat into a coarse powder like sand, upon a shallow unglazed earthen vessel, and apply a

a gentle heat underneath, that the antimony may be heated ſlowly; keeping it at the ſame time continually ſtirring to prevent it from running into lumps. White vapours of a ſulphureous ſmell will ariſe from it. When at the ſame degree of heat theſe ceaſe to exhale, increaſe the fire a little, ſo that the vapours may again ariſe; go on in this manner till the powder, when brought to a red heat, exhales no more vapours. Melt the calx in a crucible with an intenſe heat, till it takes on the appearance of melted glaſs; then pour it out on a heated braſs plate or diſh.

The calcination of antimony, to fit it for making a tranſparent glaſs, ſucceeds very ſlowly, unleſs the operator be very wary and circumſpect in the management of it. The moſt convenient veſſel is a broad ſhallow diſh, or a ſmooth flat tile, placed under a chimney. The antimony ſhould be the purer ſort, ſuch as is uſually found at the apex of the cones; this, groſsly powdered, is to be evenly ſpread over the bottom of the pan, ſo as not to lie above a quarter of an inch thick on any part. The fire ſhould be at firſt no greater than is juſt ſufficient to raiſe a fume from the antimony, which is to be now and then ſtirred: when the fumes begin to decay, increaſe the heat, taking care not to raiſe it ſo high as to melt the antimony, or run the powder into lumps: after ſome time the veſſel may be made red hot, and kept in this ſtate until the matter will not, upon being ſtirred, any longer fume. If this part of the proceſs be duly conducted, the antimony will appear in an uniform powder, without any lumps, and of a grey colour.

With this powder fill two-thirds of a crucible, which is to be covered with a tile, and placed in a wind-furnace. Gradually increaſe the fire till the calx be in perfect fuſion, when it is to be now and then examined by dipping a clean iron wire into it. If the matter which adheres to the end of the wire appears ſmooth and equally tranſparent, the vitrification is completed, and the glaſs may be poured out upon a hot ſmooth ſtone or copperplate, and ſuffered to cool by ſlow degrees to prevent its cracking and flying in pieces. It is of a tranſparent yellowiſh red colour.

The glaſs of antimony uſually met with in the ſhops, is ſaid to be prepared with certain additions; which may, perhaps, render it not ſo fit for the purpoſe here deſigned. By the method above directed, it may be eaſily made of the requiſite perfection without any addition.

As antimony may be rendered nearly or altogether inactive by calcination, it might be expected that the calx and glaſs of the preſent proceſs would be likewiſe inert. But here the calcination is far leſs perfect than in the other caſe, where the inflammable principle of the regulus is totally burnt out by deflagration with nitre: there the calx is of perfect whiteneſs, and a glaſs made from that calx (with the addition of any ſaline flux, for of itſelf it will not vitrify) has little colour: but here ſo much of the inflammable principle is left, that the calx is grey, and the glaſs of a high colour. The calcined antimony is ſaid by Boerhaave to be violently emetic. Experience has ſhown that the glaſs is ſo, inſomuch as to be unſafe for internal uſe. At preſent it is chiefly employed in forming ſome other antimonial preparations, particularly the vitrum antimonii ceratum, the next article to be mentioned; and the vinum antimonii, afterwards to be treated of under the head of

Wines. It is alſo not unfrequently employed in the formation of emetic tartar; and it was directed for that purpoſe in the laſt edition of the Edinburgh pharmacopœia, being perhaps even ſuperior to the crocus antimonii.

VITRUM ANTIMONII CERATUM.

Edinb.

Cerated glaſs of antimony.

Take of

Yellow wax, a dram;

Glaſs of antimony, reduced into powder, an ounce.

Melt the wax in an iron veſſel, and throw into it the powdered glaſs: keep the mixture over a gentle fire for half an hour, continually ſtirring it; then pour it out upon a paper, and when cold grind it into powder.

The glaſs melts in the wax with a very ſoft heat: after it has been about twenty minutes on the fire, it begins to change its colour, and in ten more comes near to that of Scotch ſnuff, which is a mark of its being ſufficiently prepared: the quantity ſet down above, loſes about one dram of its weight in the proceſs.

This medicine was for ſome time much eſteemed in dyſenteries: ſeveral inſtances of its good effects in theſe caſes may be ſeen in the fifth volume of the Edinburgh Eſſays, from which the above remarks on the preparation are taken. The doſe is from two or three grains to twenty, according to the age and ſtrength of the patient. In its operation, it makes ſome perſons ſick, and vomit; it purges almoſt every one; though it has ſometimes effected a cure without occaſioning any evacuation or ſickneſs. It is now, however, much leſs uſed than formerly.

Mr Geoffroy gives two pretty ſingular preparations of glaſs of antimony, which ſeem to have ſome affinity with this. One is made by digeſting the glaſs, moſt ſubtilely levigated, with a ſolution of maſtich made in ſpirit of wine, for three or four days, now and then ſhaking the mixture; and at laſt evaporating the ſpirit ſo as to leave the maſtich and glaſs exactly mingled. Glaſs of antimony thus prepared, is ſaid not to prove emetic, but to act merely as a cathartic, and that not of the violent kind. A preparation like this was firſt publiſhed by Hartman, under the name of *Chyliſta*.

The other preparation is made by burning ſpirit of wine upon the glaſs three or four times, the powder being every time exquiſitely rubbed upon a marble. The doſe of this medicine is from ten grains to twenty or thirty: it is ſaid to operate mildly both upwards and downwards, and ſometimes to prove ſudorific.

CERUSSA ANTIMONII.

Brun.

Ceruſſe of antimony.

Take of

Regulus of antimony, one part;

Nitre, three parts.

Deflagrate them together in the manner directed for the antimonium calcinatum.

The reſult of this proceſs and that formerly directed for the calcined antimony are nearly the ſame.

It is not neceſſary to uſe ſo much nitre here, as when antimony itſelf is employed; for the ſulphur which the crude mineral contains, and which requires for its diſſipation nearly an equal weight of nitre to the antimony, is here already ſeparated. Two parts of nitre to one of the regulus are ſufficient. It is better, however, to have an over-proportion of nitre than an under one,

one, left some parts of the regulus should escape being sufficiently calcined.

It may be proper to observe, that though crude antimony and the regulus yield the same calces, yet the salts separated in washing the calces are very different. As crude antimony contains common sulphur, the acid of the sulphur unites with the alkaline basis of the nitre, and the result is a neutral salt. As the regulus contains the phlogistic, or inflammable principle, but no sulphur, the nitre is alkalised, as it would be by charcoal or such like inflammable bodies, and is at the same time rendered more acrimonious than the common alkaline salts; probably owing to the calx absorbing the air of the alkali. If only equal parts of the regulus and nitre be employed, and the fire kept up strong for an hour or more, the salt will prove more caustic than even the potential cautery of the shops. But the causticity of the salt will still be far greater, if, instead of the simple regulus of antimony, the martial regulus be used.

KERMES MINERALIS.

Gen.

Kermes mineral.

Take of

Any fixed alkaline salt, four ounces;

Water, one pint.

Boil them together for two hours, then filtre the warm liquor; as it cools, the kermes will precipitate. Pour off the water, and add to it three ounces of fresh alkaline salt, and a pint more of water: in this liquor boil the remaining antimony as before; and repeat the process a third time, with the addition of only two ounces of alkaline salt, and another pint of water; filtering the liquor as at first, and collecting the powders which subside from them in cooling.

This medicine has of late been greatly esteemed in France especially, under the names of *Kermes mineral pulvis*, *Carthusianus poudre des Chartreaux*, &c. It was, originally, a preparation of Glauber, and for some time kept a great secret, till at length the French king purchased the preparation from M. de la Ligerie, for a considerable sum, and communicated it to the public in the year 1720. In virtue, it is not different from the sulphurs abovementioned; all of them owe their efficacy to a part of the regulus of the antimony, which the alkaline salt, by the mediation of the sulphur, renders soluble in water.

Chemists are, however, divided in their opinions with respect to the precise chemical condition of the reguline part in the preparations called *hepata of antimony*. Some have alleged that they contain not a particle of alkaline salt: It is at any rate certain, that the quantity and condition of the reguline part must vary according to the different proportions of the ingredients, the time of the precipitation, the greater or less degree of causticity of the alkali employed, and several other circumstances. At best, the whole of them are liable to the same uncertainty in their operation as the calces of antimony.

PANACEA ANTIMONII.

Panacea of antimony.

Take of

Antimony, six ounces;

Nitre, two ounces;

Common salt, an ounce and a half;

Charcoal, an ounce.

Reduce them into a fine powder, and put the mixture into a red-hot crucible, by half a spoonful

at a time, continuing the fire a quarter of an hour after the last injection: then either pour the matter into a cone, or let it cool in the crucible; which when cold must be broken to get it out. In the bottom will be found a quantity of regulus; above this a compact liver-coloured substance; and on the top, a more spongy mass: this last is to be reduced into powder, edulcorated with water, and dried, when it appears of a fine golden colour.

This preparation is supposed to have been the basis of *Lockyer's pills*, which were formerly a celebrated purge. Ten grains of the powder, mixed with an ounce of white sugar-candy, and made up into a mass with mucilage of gum tragacanth, may be divided into an hundred small pills; of which one, two, or three, taken at a time, are said to work gently by stool and vomit. The compact liver-coloured substance, which lies immediately above the regulus, operates more severely. This last appears to be nearly of the same nature with the crocus antimonii, and the former with the sulphur auratum.

CHAP. XI.

PREPARATA EX ARGENTO.

PREPARATIONS OF SILVER.

ARGENTUM NITRATUM.
Lond.
Nitrated silver.

Take of
Silver, one ounce;
Diluted nitrous acid, four ounces.

Dissolve the silver in the nitrous acid, in a glass vessel, over a sand-heat; then dry it by an heat gently raised: afterwards melt it in a crucible, that it may be poured into proper forms, carefully avoiding too great heat.

SAL ARGENTI, vulgo CAUSTICUM LUNARE.
Edinb.
Salt of silver, commonly called *Lunar caustic.*

Take of
Purest silver, flatted into plates, and cut in pieces, four ounces;
Weak nitrous acid, eight ounces;
Purest water, four ounces.

Dissolve the silver in a phial with a gentle heat, and evaporate the solution to dryness. Then put the mass into a large crucible, and apply the heat, at first gently, and augment it by degrees till the mass flows like oil; then pour it into iron pipes made for this purpose, previously heated.

These

These processes do not differ in any material particular. But the name of *argentum nitratum* is preferable to the more indefinite one of *sal argenti*.

Strong spirit of nitre will dissolve somewhat more than half its weight of pure silver; and the weaker of the aquæ fortes, formerly described, proportionably less, according to their quantity of pure nitrous acid. Sometimes this spirit contains a portion of the vitriolic, or marine acids; which, however minute, renders it unfit for dissolving this metal, and should therefore be carefully separated before the solution be attempted. The method which the refiners employ for examining the purity of their aquafortis, and purifying it if necessary, is to let fall into it a few drops of a perfect solution of silver already made: if the liquor remain clear, and grow not in the least turbid or whitish, it is fit for use; otherwise, they add a small quantity more of the solution, which immediately turns the whole of a milky white colour; the mixture being then suffered to rest for some time, deposites a white sediment; from which it is warily decanted, examined afresh, and, if need be, farther purified by a fresh addition of the solution.

The silver flatted into thin plates, as directed in the second of the above processes, needs not be cut in pieces: the solution will go on the more speedily, if they are only turned round into spiral circumvolutions, so as to be conveniently got into the glass, with care that the several surfaces do not touch each other. By this management, a greater extent of the surface is exposed to the action of the menstruum, than when the plates are cut in pieces and laid above each other. Good aquafortis will dissolve about half its weight of silver; and it is not advisable to use a greater quantity of the menstruum than is sufficient for effecting the solution, for all the surplus must be evaporated in the subsequent fusion.

It is necessary to employ very pure water; for if hard water were used in this process, the nitrous acid would forsake a part of the silver to join with the calcareous earth of the imperfect nitrous selenite; whereby a part of the silver would be precipitated.

The crucible ought to be large enough to hold five or six times the quantity of the dry matter; for it bubbles and swells up greatly, so as otherwise to be apt to run over. During this time, also, little drops are now and then spirted up whose causticity is increased by their heat, against which the operator ought therefore to be on his guard. The fire must be kept moderate till this ebullition ceases, and till the matter becomes consistent in the heat that made it boil before: then quickly increase the fire till the matter flows thin at the bottom like oil, on which it is to be immediately poured into the mould, without waiting till the fumes cease to appear; for when this happens, the preparation proves not only too thick to run freely into the mould, but likewise less corrosive than it is expected to be.

In want of a proper iron mould, one may be formed of tempered tobacco-pipe clay, not too moist, by making in a lump of it, with a smooth stick first greased, as many holes as there is occasion for: pour the liquid matter into these cavities, and when congealed take it out by breaking the mould. Each piece is to be wiped clean from the grease, and wrapt up in soft dry paper, not only to keep the air from acting upon them, but likewise to prevent their cor-

corroding or diſcolouring the fingers in handling.

This preparation is a ſtrong cauſtic; and frequently employed as ſuch, for conſuming warts and other fleſhy excreſcences, keeping down fungous fleſh in wounds or ulcers, and other ſimilar uſes. It is rarely applied where a deep eſchar is required, as in the laying open of impoſthumations and tumours; for the quantity neceſſary for theſe purpoſes, liquefying by the moiſture of the ſkin, ſpreads beyond the limits in which it is intended to operate.

PILULÆ LUNARES.
The lunar pills.

Diſſolve pure ſilver in aquafortis, as in the foregoing proceſs; and after due evaporation, ſet the liquor apart to cryſtalliſe. Let the cryſtals be again diſſolved in common water, and mingled with a ſolution of equal their weight of nitre. Evaporate this mixture to dryneſs, and continue the exſiccation with a gentle heat, keeping the matter conſtantly ſtirring till no more fumes ariſe.

Here it is neceſſary to continue the fire till the fumes entirely ceaſe, as more of the acid is required to be diſſipated than in the preceding proceſs. The preparation is, nevertheleſs, in taſte very ſharp, intenſely bitter and nauſeous: applied to ulcers, it acts as a cauſtic, but it is much milder than the foregoing. Boerhaave, Boyle, and others, commend it highly in hydropic caſes. The former aſſures us, that two grains of it made into a pill with crumb of bread and a little ſugar, and taken on an empty ſtomach (ſome warm water, ſweetened with honey, being drank immediately after), purge gently without griping, and bring away a large quantity of water, almoſt without the patient's perceiving it: that it kills worms, and cures many inveterate ulcerous diſorders. He nevertheleſs cautions againſt uſing it too freely, or in too large a doſe; and obſerves, that it always proves corroſive and weakening, eſpecially to the ſtomach.

CHAP.

CHAP. XII.

PREPARATA E FERRO.

PREPARATIONS OF IRON.

FERRUM AMMONIACALE.
Lond.
Ammoniacal iron.

Take of
Iron filings, one pound;
Sal ammoniac, two pounds.
Mix, and sublime. What remains at the bottom of the vessel mix by rubbing together with the sublimed matter, and again sublime.

FLORES MARTIALES, vulgo ENS VENERIS.
Edinb.
Martial flowers, commonly called *Ens veneris.*

Take of
Colcothar of martial vitriol, washed and well dried,
Sal ammoniac, equal weights.
Having mixed them well, sublime.

THOUGH the mode of preparation directed by the two colleges is here different, yet the preparation is at bottom the same; and it is perhaps difficult to say which mode of preparation is to be preferred as the easiest and best.

The name of *ens veneris* has by some been very improperly applied to this preparation, as it contains not a particle of copper. The proper *ens veneris* is prepared from the blue vitriol; but, as we shall soon see, is often not materially different from the *flores martiales.*

The success of this process depends principally upon the fire being hastily raised, that the sal ammoniac may not sublime before the heat be sufficient to enable it to carry up a sufficient quantity of the iron. Hence glass vessels are not so proper as earthen or iron ones: for when the former are made use of, the fire cannot be raised quickly enough, without endangering the breaking of them. The most convenient vessel is an iron pot; to which may be luted an inverted earthen jar, having a small hole in its bottom to suffer the elastic vapours, which arise during the operation, to escape. It is of advantage to thoroughly mix the ingredients together, moisten them with a little water, and then gently dry them; and to repeat the pulverisation, humectation, and exsiccation two or three times, or oftener. If this method be followed, the sal ammoniac may be increased to three times the quantity of the iron, or farther; and a single sublimation will often be sufficient to raise flowers of a very deep orange colour.

This preparation is supposed to be highly

highly aperient and attenuating; though no otherwiſe ſo than the reſt of the chalybeates, or at moſt only by virtue of the ſaline matter joined to the iron. It has been found of ſervice in hyſterical and hypochondriacal caſes, and in diſtempers proceeding from a laxity and weakneſs of the ſolids, as the rickets. It may be conveniently taken in the form of a bolus, from two or three grains to ten: it is nauſeous in a liquid form (unleſs in ſpirituous tincture); and occaſions pills to ſwell and crumble, except ſuch as are made of the gums.

FERRI RUBIGO.

Lond.

Ruſt of Iron.

Take of
Iron filings, one pound.
Expoſe them to the air, often moiſtening them with water, until they be corroded into ruſt; then powder them in an iron mortar, and waſh off with diſtilled water the very fine powder.
But the remainder, which will not by moderate rubbing be reduced into a powder eaſily waſhed off, muſt be moiſtened, expoſed to the air for a longer time, and again powdered and waſhed as before. Let the waſhed powder be dried.

FERRI RUBIGO, vulgo FERRI LIMATURA PREPARATA.

Edinb.

Ruſt of iron, commonly called *Shavings of iron prepared.*

Set purified filings of iron in a moiſt place, that they may turn to ruſt, which is to be ground into an impalpable powder."

The cleanſing of iron filings by means of a magnet is very tedious, and does not anſwer ſo well as might be expected; for if they be ruſty, they will not be attracted by it, or not ſufficiently: nor will they by this means be entirely freed from braſs, copper, or other metallic ſubſtances which may adhere to them. It appears from the experiments of Henckel, that if iron be mixed by fuſion with even its own weight of any of the other metals, regulus of antimony alone excepted, the compound will be vigorouſly attracted by the loadſtone.—The ruſt of iron is to be procured at a moderate rate from the dealers in iron, free from any impurities, except ſuch as may be waſhed off by water.

The ruſt of iron is preferable as a medicine to the calces, or croci, made by a ſtrong fire. Hoffman relates, that he has frequently given it with remarkable ſucceſs in obſtinate chlorotic caſes accompanied with exceſſive headachs and other violent ſymptoms; and that he uſually joined with it pimpinella, arum root, and ſalt of tartar, with a little cinnamon and ſugar. The doſe is from four or five grains to twenty or thirty. Some have gone as far as a dram: But all the preparations of this metal anſwer beſt in ſmall doſes, which ſhould rather be often repeated than enlarged.

FERRUM TARTARISATUM.

Lond.

Tartariſed iron.

Take of
Filings of iron, one pound.
Powdered cryſtals of tartar, two pounds.
Mix them with diſtilled water into a thick paſte. Expoſe it to the air in an open earthen veſſel for eight days; then rub the matter, dried in a bath of ſand, to the fineſt powder.

This

This is an useful preparation of iron, in which that metal is chiefly brought to a saline state by means of the cream of tartar. It has now for the first time a place in the London pharmacopœia; but it had before been introduced into some of the foreign ones, particularly the Pharmacopœia Genevensis, under the title of *mars tartarizatus*; and indeed it is almost precisely the same with the *mars solubilis* of the old editions of the Edinburgh pharmacopœia.

FERRUM VITRIOLATUM.

Lond.

Vitriolated iron.

Take of
- Filings of iron,
- Vitriolic acid, each eight ounces;
- Distilled water, three pints.

Mix them in a glass vessel; and, when the effervescence has ceased, place the mixture for some time upon hot sand; then pour off the liquor, straining it through paper; and, after due exhalation, set it aside to crystallize.

VITRIOLUM MARTIS, seu SAL CHALYBIS.

Edin.

Vitriol of iron, or salt of steel.

Take of
- Purified filings of iron, six ounces;
- Vitriolic acid, eight ounces;
- Water, two pounds and a half.

Mix them, and when the effervescence ceases, let the mixture stand for some time upon warm sand; then strain the liquor through paper, and after due evaporation set it at rest to crystallise.

During the dissolution of the iron an elastic vapour arises, which on the approach of flame catches fire and explodes, so as sometimes to burst the vessel. To this particular therefore the operator ought to have due regard.

This vapour is also noxious to animal life. It is the inflammable air of Dr Priestly.

The chemists are seldom at the trouble of preparing this salt according to the directions above given; but in its stead substitute common green vitriol, purified by solution in water, filtration, and crystallization. The only difference between the two is, that the common vitriol contains somewhat more metal in proportion to the acid: and hence in keeping, its green colour is much sooner debased by a rusty brownish cast. The superfluous quantity of metal may be easily separated, by suffering the solution of the vitriol to stand for some time in a cold place, when a brownish yellow ochery sediment will fall to the bottom; or it may be perfectly dissolved, and kept suspended by a suitable addition of oil of vitriol. If the vitriol be suspected to contain any cupreous matter, which it does not appear that the common English vitriol ever does, though almost all the foreign vitriols do, the addition of some bright iron wire to the solution will both discover, and effectually separate, that metal: for the acid quits the copper to dissolve a proportionable quantity of the iron; and the copper, in its separation from the acid, adheres to the undissolved iron, and forms a skin of a true copper colour upon its surface. Even a vitriol of pure copper may, on this principle, be converted into a pure vitriol of iron.

But though the vitriolic acid appears in this operation to have so much stronger a disposition to unite with iron than with copper, that it totally rejects the latter upon presenting the former for it to act upon; the

the operator may, nevertheless, give a dangerous impregnation of copper to the purest and most saturated solution of iron in the vitriolic acid, by the use of copper vessels. If the martial solution be boiled in a copper vessel, it never fails to dissolve a part of the copper, distinguishable by its giving a cupreous stain to a piece of bright iron immersed in it. By the addition of the iron, the copper is separated; by boiling it again without iron, more of the copper is dissolved; and this may in like manner be separated by adding more iron.

The salt of steel is one of the most efficacious preparations of this metal; and not unfrequently made use of in cachectic and chlorotic cases, for exciting the uterine purgations, strengthening the tone of the viscera, and destroying worms. It may be conveniently taken in a liquid form, largely diluted with aqueous fluids: Boerhaave directs it to be dissolved in an hundred times its weight of water, and the solution to be taken in the dose of twelve ounces on an empty stomach, walking gently after it. Thus managed, he says, it opens the body, purges, proves diuretic, kills and expels worms, tinges the excrements black, or forms them into a matter like clay, strengthens the fibres, and thus cures many different distempers. The quantity of vitriol in the above dose of the solution, is fifty-seven grains and a half; but in common practice, such large doses of this strong chalybeate are never ventured on. Four or five grains, and in many cases half a grain, are sufficient for the intentions in which chalybeate medicines are given. Very dilute solutions, as that of a grain of the salt in a pint of water, may be used as succedanea to the natural chalybeate waters, and will in many cases produce similar effects.

COLCOTHAR VITRIOLI.

Edinb.

Colcothar of vitriol.

Let calcined vitriol be urged with a violent fire till it passes into a matter of a very red colour.

In this preparation, the iron which had been brought to a saline state by means of the acid of vitriol, is again deprived of that acid by the action of fire. It may be considered therefore as differing in nothing from the residuum which remains in the retort, when vitriolic acid is distilled from martial vitriol. The colcothar is very rarely employed by itself for medical purposes; but it is used in the preparation of some other chalybeates, particularly the flores martiales, when prepared according to the method directed by the Edinburgh college.

ÆTHIOPS MARTIALIS.

Gen.

Martial Æthiops.

Take of

The rust of iron, as much as you incline;

Olive oil, a sufficient quantity to make it into a paste.

Let this be distilled in a retort by a strong fire to dryness. Keep the residuum reduced to a fine powder in a close vessel.

An article under this name had formerly a place in some of the old pharmacopœias, and is described by Lemery in the Memoirs of the French Academy; but it was formed by a tedious process, continued for several months by the aid of water. Here the process is much shorter, and is supposed to give nearly

nearly the same product. Some have recommended it, upon the supposition that the iron is here obtained in a very subtle state: but it is not in general supposed to have any advantage over the other more common chalybeates.

CROCUS MARTIS APERIENS ET ASTRINGENS.

Opening and astringent crocus of iron.

These are prepared by mixing iron filings with twice their weight of powdered sulphur, deflagrating in a red hot crucible; and in the one case keeping the preparation over the fire till it assumes a red colour; in the other, by reverberating it for a long time in the most extreme degree of heat.

Preparations under these names still retain a place in some of the foreign pharmacopœias, but they are variously prepared. They may however be considered as possessing the same medical powers: and although the preparations mentioned above probably differ somewhat from each other in their virtues, yet that difference is not of such a nature as is imported by the titles by which they are usually distinguished. For all the preparations of iron probably act by an astringent quality; and that which is above denominated the astringent crocus, has probably least effect in that way. At one period, these preparations were not unfrequently in use; and they were given in the form of bolus, electuary, or pill, from a few grains to a scruple; but among us they are at present so little in use, as to have now no place in our pharmacopœias.

CHAP. XIII.

PRÆPARATA EX HYDRARGYRO.

PREPARATIONS OF MERCURY.

We have already treated of mercury at some length in the Materia Medica, and have there given a full view of the different mercurial preparations, reduced to the form of a table. From that table it is evident, that there is no article which has been employed for medical purposes in a greater variety of forms. The colleges of London and Edinburgh have admitted into their pharmacopœias only a few of these; but from the selection they have made, there is reason to believe that every useful purpose for which mercury has been employed may be answered; and these purposes are both numerous and considerable. For it is at least very generally allowed among intelligent

ligent practitioners, that there are very few articles kept in the shops of our apothecaries which can be considered as so extensively useful.

Mercury or quicksilver, in its crude state, is a ponderous metallic fluid, totally volatile in a strong fire, and calcinable by a weaker one (though very difficultly) into a red powdery substance. It dissolves in the nitrous acid, is corroded by the vitriolic, but not acted on by the marine in its liquid state: it nevertheless may be combined with this last, if skilfully applied in the form of fume. Quicksilver unites, by trituration, with earthy, unctuous, resinous, and other similar substances, so as to lose its fluidity: triturated with sulphur, it forms a black mass, which by sublimation changes into a beautiful red one.

The general virtues of the mercurial preparations we have already endeavoured to state under the article Hydrargyrus in the Materia Medica. Here it is sufficient to observe, that while in certain circumstances they act as stimulants, and even as corrosives, to the parts to which they are applied; under a different management, when introduced into the habit, they seem to forward circulation through even the smallest and most remote vessels of the body; and may be so managed as to promote excretions through all the emunctories. But while they thus operate as a powerful stimulus to the sanguiferous, and probably also to the lymphatic system, they seem to exert but little influence on the nervous system. By this means they prove eminently serviceable in certain inveterate chronical disorders, proceeding from obstinate obstructions of the glands. Crude mercury has no effect this way. Resolved into fume, or divided into minute particles, and prevented from re-

uniting by the interposition of other substances, it operates very powerfully; unless the dividing body be sulphur, which restrains its action. Combined with a small quantity of the mineral acids, it acts effectually, though in general mildly; with a larger, it proves violently corrosive.

HYDRARGYRUS PURIFICATUS.

Lond.

Purified quicksilver.

Take of

Quicksilver,

Filings of iron, each four pounds.

Rub them together, and distil from an iron vessel.

As in the distillation of quicksilver glass retorts are very liable to be broken, an iron one is here with propriety directed; and by the addition of the filings of iron, matters which might otherwise arise with the quicksilver will be more apt to be detained in the retort: But still this happens so readily, even merely with that degree of heat which is necessary to elevate the mercury, that it is very doubtful whether much advantage be obtained from this process; and accordingly it has now no place in the pharmacopœia of the Edinburgh college.

HYDRARGYRUS ACETATUS.

Lond.

Acetated quicksilver.

Take of

Purified quicksilver, one pound;

Diluted nitrous acid, two pounds;

Water of kali, as much as is sufficient.

Mix the quicksilver with the acid in a glass vessel, and dissolve it in a sand-bath; then drop in by degrees the water of kali, that the calx

calx of quickſilver may be precipitated; waſh this calx with plenty of diſtilled water, and dry it with a gentle heat. Theſe things being done,

Take of

The calx of quickſilver, juſt now deſcribed, one pound.

Acetous acid, as much as is neceſſary to diſſolve the calx.

Mix them in a glaſs veſſel; and the ſolution being completed, ſtrain it through paper; then evaporate it till a pellicle appears, and ſet it aſide to cryſtallize.

Keep theſe cryſtals in a veſſel cloſe ſtopt.

Of all the ſaline preparations of mercury, it has long been the opinion of the beſt chemiſts, that thoſe in which it was brought to a ſaline form, by means of acetous acid, would be the mildeſt; and ſuch a preparation was conjectured to be the baſis of a celebrated pill, prepared and ſold by Mr Keyſer. It was however found to be a very difficult matter to imitate his pill, or to obtain a combination of mercury with the acetous acid: but not long ſince, the proceſs for preparing theſe pills was publiſhed by authority at Paris, after being purchaſed by the French King. The proceſs here deſcribed, though in ſome particulars much leſs operoſe than that of Mr Keyſer, yet nearly approaches to it. and furniſhes us with the mildeſt of the ſaline mercurials.

HYDRARGYRUS CALCINATUS.

Lond.

Calcined quickſilver.

Take of

Puriſied quickſilver, one pound.

Expoſe the quickſilver, in a flat-bottomed glaſs cucurbit, to an heat of about 600 degrees in a ſand-bath, till it becomes a red powder.

This preparation may now be made in a ſhorter time than by the proceſs formerly directed in the London pharmacopœia, which in general required ſeveral months: for the acceſs of air, without which calcination cannot be performed, was then very much excluded. Still, however, the proceſs is a tedious one, and might perhaps be improved. A veſſel might be ſo contrived, as to occaſion a continual flux of air over the ſurface of the mercury.

This preparation is by ſome highly eſteemed in venereal caſes, and ſuppoſed to be the moſt efficacious and certain of all the mercurials. It may be advantageouſly given in conjunction with opiates: a bolus or pill, containing from half a grain to two grains of this calx, and a quarter or half a grain or more of opium, with the addition of ſome warm aromatic ingredient, may be taken every night. Thus managed, it acts mildly, though powerfully, as an alterative and diaphoretic: given by itſelf in larger doſes, as four or five grains, it proves a rough emetic and cathartic.

PULVIS MERCURII CINEREUS.

Edinb.

Aſh-coloured powder of mercury.

Take of

Quickſilver,

Weak nitrous acid, equal weights.

Mix them ſo as to diſſolve the quickſilver; dilute the ſolution with pure water, and add ſpirit of ſal ammoniac as much as is ſufficient to ſeparate the mercury perfectly from the acid; then waſh the powder in pure water, and dry it.

In this process the mercurial nitre is decomposed; the precipitate, therefore, is a calx of mercury, and the clear liquor a solution of nitrous ammoniac. From the great attraction which the nitrous acid has for phlogiston, or from its ready disposition to part with pure air, the precipitates of mercury, from its solution in this acid, are more completely in the state of a calx than those from any other menstruum. There are, however, several niceties to be observed in conducting this process. If we employ too small a proportion of acid, and assist the solution by heat. the solution will contain an excess of calx capable of being separated by the water; and the whole precipitate from such a solution would be of a white colour. If, on the other hand, we employ too large a proportion of acid, the mercury is then so far calcined as to be capable of being dissolved by the volatile alkali: and this might happen in proportion as the quantity should be superabundant to the neutralization of the acid. The use of the water is to dissolve the nitrous ammoniac as fast as it is formed, and thereby prevent it from falling down and mixing with the precipitate. It is necessary to employ the purest water; as if such was used as contains a nitrous selenite, not only a part of the mercury may be precipitated by the base of the selenite, but this last might also be deposited by the succeeding addition of the alkali.

The pulvis mercurii cinereus has of late years been much celebrated for the cure of venereal affections. It was first proposed by Dr Saunders to be made by precipitating the mercury from calomel, as the best substitute for the tedious and expensive process of the *precipitatus per se*, and of the grey powder produced by triture with gum arabic. From the testimony of Dr Home, and several other practitioners, we have no doubt of its being a very valuable preparation of mercury. It may be given in a bolus or wafer, from one to six or seven grains; the dose being gradually increased according to its effects upon the person.

HYDRARGYRUS CUM CRETA.

Lond.

Quicksilver with chalk.

Take of

Purified quicksilver, three ounces;
Powdered chalk, five ounces.

Rub them together, until the globules disappear.

In this preparation, as well as the two former, we have also the mercury in a state of calx; but in place of being brought to that state by the aid of fire or of acids, what may here be considered as calcination is effected by triture.

This preparation had no place in the former editions of the London pharmacopœia. A preparation, nearly similar indeed, under the title of Mercurius Alcalisatus, in which crabs eyes were employed in place of chalk, had a place in the old editions of the Edinburgh pharmacopœia, but was rejected from that published in 1744, and has never again been restored. One reason for rejecting it was its being liable to gross abuse in the preparation, by the addition of some intermedium, facilitating the union of mercury with the absorbent earth, but diminishing or altering its power. The present preparation is liable to the same objection. Some, however, are of opinion, that when duly prepared, it is an useful alterative. But there can be little doubt, that the absorbent earth, by destroying acid in the alimentary canal, will

will diminiſh the activity of the mercurial calx.

HYDRARGYRUS MURIATUS.

Lond.

Muriated quickſilver.

Take of
- Purified quickſilver,
- Vitriolic acid, each two pounds;
- Dried ſea-ſalt, three pounds and an half.

Mix the quickſilver with the acid, in a glaſs veſſel, and boil in a ſand-heat until the matter be dried. Mix it, when cold, with the ſea-ſalt, in a glaſs veſſel; then ſublime in a glaſs cucurbit, with a heat gradually raiſed. Laſtly, let the ſublimed matter be ſeparated from the ſcoriæ.

MERCURIUS SUBLIMATUS CORROSIVUS.

Edin.

Sublimate corroſive mercury.

Take of
- Quickſilver,
- Weak nitrous acid, of each four ounces;
- Calcined ſea-ſalt,
- Calcined vitriol, of each five ounces.

Diſſolve the quickſilver in the nitrous acid, and evaporate the ſolution to a white and thoroughly dry maſs; then add the ſea-ſalt and vitriol. Having ground and mixed them well together, put the whole into a phial, one half of which they ought to fill; then ſublime in ſand, firſt with a gentle heat, but afterwards to be gradually increaſed.

The ſublimate prepared by either of theſe methods is the ſame, as the ſublimate in both conſiſts only of mercury and the acid of the ſea-ſalt united together. In the proceſs directed by the Edinburgh college, the materials being mixed and expoſed to the fire, firſt the vitriol parts with its acid, which, diſlodging thoſe of the nitre and marine ſalt, takes their place. The marine acid, reſolved into fume and aſſiſted by the nitrous, diſſolves the mercury, now alſo ſtrongly heated. This acid, though it very difficultly acts on mercury, yet when thus once united with it, is more ſtrongly retained thereby than any other acid. The nitrous ſpirit, therefore, having nothing to retain it (for its own baſis and that of the ſea-ſalt are both occupied by the vitriolic, and that which the vitriolic forſook to unite with theſe, is now ſcarcely combinable with it) ariſes; leaving the mercury and marine acid to ſublime together when the heat ſhall be ſtrong enough to elevate them. Some ſmall portion of the marine ſpirit ariſes along with the nitrous; and hence this compound acid has been uſually employed, inſtead of the *aquafortis compoſita*, to which it is ſimilar, for making the red corroſive.

It appears, therefore, that the vitriol, and the baſes of the nitre and ſea-ſalt, are of no farther uſe in this proceſs, than as convenient intermediums for facilitating the union of the mercury with the marine acids. They likewiſe ſerve to afford a ſupport for the ſublimate to reſt upon, which thus aſſumes the form it is expected in, that of a placenta or cake.

The proceſs, however, now adopted by the London college is a more ſimple and better one. There the mercury, corroded by the vitriolic acid into a white maſs, is mixed with about an equal quantity of ſea-ſalt, and ſet to ſublime; the vitriolic acid quits the mercury to unite with the baſis of the ſea-ſalt; and the acid of the ſea-ſalt, now ſet at liberty, unites with the mercury, and

ſublimes with it into the compound required. The diſcovery of this method is generally attributed to Boulduc; though it is found alſo in Kunckel's *Laboratorium Chymicum*. When the proceſs is conducted in this way, the reſiduous matter is a pure Glauber's ſalt, and the ſublimate is alſo free of ferruginous matter; a greater or leſs quantity of which is very generally carried up along with the mercury when vitriol of iron is employed. Boulduc's method has therefore the advantage in this, that the proportion of mercury in a given quantity of ſublimate muſt be leſs liable to variation.

If the mercury be corroded by the nitrous acid inſtead of the vitriolic, the event will be the ſame; that acid equally quitting the mercury, and ſetting looſe the marine; and the ſublimate made by this method is the ſame with the foregoing; but as the quantity of fixt matter is ſmaller, it more difficultly aſſumes the form of a cake. It requires indeed ſome ſkill in the operator to give it this appearance when either proceſs is followed. When large quantities are made, this form may be eaſily obtained, by placing the matraſs no deeper in the ſand than the ſurface of the matter contained in it; and removing a little of the ſand from the ſides of the glaſs, as ſoon as the flowers begin to appear in the neck; when the heat ſhould likewiſe be ſomewhat lowered, and not at all raiſed during the whole proceſs. The ſublimation is known to be completed by the edges of the cryſtalline cake, which will form upon the ſurface of the caput mortuum, appearing ſmooth and even, and a little removed from it.

Our apothecaries rarely, and few even of the chemiſts, attempt the making of this preparation themſelves; greateſt part of what is uſed among us comes from Venice and Holland. This foreign ſublimate has been reported to be adulterated with arſenic. Some affirm that this dangerous fraud may be diſcovered by the ſublimate turning black on being moiſtened with alkaline ley; which by others is denied. As this point ſeemed of ſome importance to be determined, ſundry experiments have been made with this view, which prove the inſufficiency of alkalies for diſcovering arſenic. Alkaline ley, poured into a ſolution of pure ſublimate, into a ſolution of pure arſenic, and into a mixture of the two ſolutions in different proportions, produced no blackneſs in any: and though the pure ſublimate, and the mixtures of it with arſenic, exhibited ſome differences in theſe trials, yet theſe differences were neither ſo conſtant, nor ſo ſtrongly marked, as to be laid down univerſally for criteria of the preſence or abſence of arſenic: different ſpecimens of ſublimate, known to be pure, have been found to differ conſiderably in this reſpect; probably from their holding a little more or leſs mercury in proportion to the acid, or from their retaining ſome ſmall portion of thoſe acids which were employed in the preparation as intermedia.

Some chemiſts deny the practicability of this adulteration There is a proceſs common in books of chemiſtry, wherein ſublimate and arſenic being mixed together and ſet to ſublime, they do not ariſe in one maſs, or yield any thing ſimilar to the preparation here intended: the arſenic abſorbs the acid of the ſublimate, and is reduced thereby into a liquid or butyraceous conſiſtence; while the mercury, thus freed from the acid, diſtils in its running form: if the quantity of arſenic be inſufficient to decompound the whole of the ſublimate, the remainder of the ſublimate concretes diſtinct from

the arſenical butter. From whence they conclude, that arſenic and ſublimate cannot be united together into a cryſtalline cake, the form in which this preparation is brought to us.

The above experiment is not altogether deciſive; for though arſenic and ſulphur do not aſſume the required form by the common proceſs, it is poſſible they may by ſome other management. It will therefore be proper to point out means for the ſatisfaction of thoſe who may be deſirous of convincing themſelves of the genuineneſs of this important preparation. Let ſome of the ſublimate, powdered in a glaſs mortar, be well mixed with twice its weight of black flux, and a little filings or ſhavings of iron: put the mixture into a crucible capable of holding four or five times as much; give a gradual fire till the ebullition ceaſes, and then haſtily increaſe it to a white heat. If no fumes of a garlic ſmell can be perceived during the proceſs, and if the particles of iron retain their form, without any of them being melted, we may be ſecure that the mixture contained no arſenic.

Sublimate is a moſt violent coroſive, preſently corrupting and deſtroying all the parts of the body it touches. A ſolution of it in water, in the proportion of about a dram to a quart, is made uſe of for keeping down proud fleſh, and cleanſing foul ulcers; and a more dilute ſolution as a coſmetic, and for deſtroying cutaneous inſects. But a great deal of caution is requiſite even in theſe external uſes of it.

Some have nevertheleſs ventured to give it internally, in the doſe of one-tenth or one-eighth of a grain. Boerhaave relates, that if a grain of it be diſſolved in an ounce or more of water, and a dram of this ſolution, ſoftened with ſyrup of violets, taken twice or thrice a-day, it will perform wonders in many reputed incurable diſtempers; but he particularly cautions us not to venture upon it, unleſs the method of managing it be well known

Sublimate diſſolved in vinous ſpirit has of late been given internally in larger doſes; from a quarter of a grain to half a grain. This method of uſing it was brought into repute by Baron Van Swieten at Vienna, particularly for venereal maladies; and ſeveral trials of it have been made in this kingdom alſo with ſucceſs Eight grains of the ſublimate are diſſolved in ſixteen ounces of rectified ſpirit of wine or proof-ſpirit; the rectified ſpirit diſſolves it more perfectly, and ſeems to make the medicine milder in its operation than the proof-ſpirit of the original preſcription of Van Swieten. Of this ſolution, from one to two ſpoonfuls, that is, from half an ounce to an ounce, are given twice a-day, and continued till all the ſymptoms are removed; obſerving to uſe a low diet, with plentiful dilution, otherwiſe the ſublimate is apt to purge, and gripe ſeverely. It generally purges more or leſs at the beginning, but afterwards ſeems to operate chiefly by urine and perſpiration.

Sublimate conſiſts of mercury united with a large quantity of marine acid. There are two general methods of deſtroying its coroſive quality, and rendering it mild; the one is, combining with it as much freſh mercury as the acid is capable of taking up; and the other, by ſeparating a part of the acid by means of alkaline ſalts, and the like. On the firſt principle, mercurius dulcis is formed; on the latter, white precipitate. But before entering on theſe, it is proper to give the following formula.

SOLUTIO MERCURII SUBLIMATI CORROSIVI.

Edinb.

Solution of ſublimate corroſive mercury.

Take of

Sublimate corroſive mercury, ſix grains;

Sal ammoniac, twelve grains.

Diſſolve in a pound of diſtilled water.

If hard water be uſed for this purpoſe, the ſolution ſuffers a kind of decompoſition from the nitrous ſelenite of the water.

The ſolution of corroſive ſublimate in water is very much aſſiſted by ſal ammoniac. There was a practice ſome years ago, of mixing up this ſolution with wheat-flour into the conſiſtence of pills for internal uſe; and the quantity of ſublimate in each pill was eaſily aſcertained.

This ſolution may alſo be uſed for waſhing venereal and other ſores; but in many inſtances it will be found too acrid for that purpoſe, and will require to be weakened by the addition of a portion of water.

CALOMELAS.

Lond.

Calomel.

Take of

Muriated quickſilver, one pound;

Purified quickſilver, by weight, nine ounces.

Rub them together till the globules diſappear, and ſublime. In the ſame manner repeat the ſublimation four times. Afterwards rub the matter into the fineſt powder, and waſh it by pouring on boiling diſtilled water.

MERCURIUS DULCIS.

Edinb.

Sweet mercury.

Take of

Corroſive mercury ſublimat, reduced to a powder in a glaſs mortar, four ounces;

Pure quickſilver, three ounces and a half.

Mix them well together, by long trituration in a glaſs or marble mortar, until the quickſilver ceaſes to appear. Put the powder into an oblong phial, of ſuch a ſize, that only one-third of it may be filled; and ſet the glaſs in ſand. By degrees of fire, ſucceſſively applied, almoſt all the mercury will ſublime, and adhere to the upper part of the veſſel. The glaſs being then broken, and the red powder which is found in its bottom, with the whitiſh one that ſticks about the neck, being thrown away, let the white mercury be ſublimed again three or four times, and reduced to a very fine powder.

The trituration of corroſive ſublimate with quickſilver is a very noxious operation: for it is almoſt impoſſible, by any care, to prevent the lighter particles of the former from ariſing ſo as to affect the operator's eyes and mouth. It is nevertheleſs of the utmoſt conſequence, that the ingredients be perfectly united before the ſublimation is begun. It is neceſſary to pulveriſe the ſublimate before the mercury is added to it; but this may be ſafely performed, with a little caution; eſpecially if during the pulveriſation the matter be now and then ſprinkled with a little ſpirit of wine: this addition does not at all impede the union of the ingredients, or prejudice the ſublimation: it will be convenient not to cloſe the top of the ſubliming veſſel with a cap of paper at firſt (as is uſually practiſed), but to defer this till the mixture begins

gins to ſublime, that the ſpirit may eſcape.

The rationale of this proceſs deſerves particular attention; and the more ſo, as a miſtaken theory herein has been productive of ſeveral errors with regard to the operation of mercurials in general. It is ſuppoſed, that the dulcification, as it is called, of the *mercurius corroſivus*, is owing to the ſpiculæ or ſharp points, on which its corroſiveneſs depends, being broken and worn off by the frequent ſublimations. If this opinion were juſt, the corroſive would become mild, without any addition, barely by repeating the ſublimation; but this is contrary to all experience. The abatement of the corroſive quality of the ſublimate is entirely owing to the combination of ſo much freſh mercury with it as is capable of being united; and by whatever means this combination be effected, the preparation will be ſufficiently dulcified. Triture and digeſtion promote the union of the two, whilſt ſublimation tends rather to diſunite them. The prudent operator, therefore, will not be ſolicitous about ſeparating ſuch mercurial globules as appear diſtinct after the firſt ſublimation: he will endeavour rather to combine them with the reſt, by repeating the triture and digeſtion.

The college of Wirtemberg require their *mercurius dulcis* to be only twice ſublimed; and the Auguſtan but once; and Neumann propoſes making it directly by a ſingle ſublimation, from the ingredients which the corroſive ſublimate is prepared from, by only taking the quickſilver in a larger proportion.

Mr Selle of Berlin has lately propoſed a method of making mercurius dulcis nearly ſimilar to that of Neumann. He directs, that to four ounces of pure quickſilver there ſhould be added as much ſtrong vitriolic acid. Theſe are to be mixed over a ſtrong fire till they become a ſolid hard maſs. This maſs is to be triturated in a ſtone mortar with two ounces and an half of quickſilver and four ounces and an half of dried common ſalt. And by a ſingle, or at moſt two ſublimations, an excellent mercurius dulcis is, he aſſures us, obtained.

If the medicine, made after either of theſe methods, ſhould prove in any degree acrid, water boiled on it for ſome time will diſſolve and ſeparate that part in which its acrimony conſiſts. The marks of the preparation being ſufficiently dulcified are, its being perfectly inſipid to the taſte, and indiſſoluble by long boiling in water. Whether the water, in which it has been boiled, has taken up any part of it, may be known by dropping into the liquor a ley of any fixt alkaline ſalt, or any volatile alkaline ſpirit: if the decoction has any mercurial impregnation, it will grow turbid on this addition: if otherwiſe, it will continue limpid. But here care muſt be taken not to be deceived by an extraneous ſaline matter in the water itſelf: moſt of the common ſpring waters turn milky on the addition of alkalies: and therefore, for experiments of this kind, diſtilled water or rain water ought to be uſed.

This name of *calomel*, though for a conſiderable time baniſhed from our beſt pharmacopœias, is again reſtored by the London college. But we cannot help thinking, that they might eaſily have invented a name better expreſſing the conſtituent parts and nature of the preparation.

Calomel, or mercurius dulcis, may be conſidered as one of the moſt uſeful of the mercurial preparations; and it may be eſtimated as holding an intermediate place between the hydrargyrus acetatus, one of the

mildeſt of the ſaline preparations, and the hydrargyrus muriatus, or corroſive ſublimate, one of the moſt acrid of them.

HYDRARGYRUS MURIATUS MITIS.

Lond.

Mild muriated quickſilver.

Take of
Purified quickſilver,
Diluted nitrous acid, of each half a pound.

Mix in a glaſs veſſel, and ſet it aſide until the quickſilver be diſſolved. Let them boil, that the ſalt may be diſſolved. Pour out the boiling liquor into a glaſs veſſel, into which another boiling liquor has been put before, conſiſting of,
Sea-ſalt, four ounces;
Diſtilled water, eight pints.

After a white powder has ſubſided to the bottom of the veſſel, let the liquor ſwimming at the top be poured out, and the remaining powder be waſhed till it becomes inſipid, with frequent affuſions of hot water; then dried on blotting paper with a gentle heat.

THIS preparation had a place in former editions of the London and Edinburgh pharmacopœias, under the name of *mercurius dulcis precipitatus*. But the proceſs as now given is ſomewhat altered, being that of Mr Scheele of Sweden, who has recommended this as an eaſy and expeditious method of preparing ſweet mercury or calomel.

It appears from ſeveral teſts, that this precipitate is equal in every reſpect to that prepared by the preceding proceſſes: it is leſs troubleſome and expenſive, and the operator is not expoſed to the noxious duſt ariſing from the triture of the quickſilver with the corroſive ſublimate, which neceſſarily happens by the common method. The powder is alſo finer than can be made from the common ſublimed ſweet mercury by any trituration whatever. The clear liquor ſtanding over the precipitate, is a ſolution of cubic or rhomboidal nitre.

Mercurius dulcis, which may be conſidered as preciſely the ſame with the calomelas and hydrargyrus muriatus mitis, appears to be one of the beſt and ſafeſt preparations of this mineral, when intended to act as a quick and general ſtimulant. Many of the more elaborate proceſſes are no other than attempts to produce from mercury ſuch a medicine as this really is. The doſe, recommended by ſome for raiſing a ſalivation, is ten or fifteen grains taken in the form of a bolus or pills, every night or oftener, till the ptyaliſm begins. As an alterant and diaphoretic, it has been given in doſes of five or ſix grains; a purgative being occaſionally interpoſed, to prevent its affecting the mouth. It anſwers, however, much better when given in ſmaller quantities, as one, two, or three grains every morning and evening, in conjunction with ſuch ſubſtances as determine its action to the ſkin, as the extract or reſin of guaiacum; the patient at the ſame time keeping warm, and drinking liberally of warm diluent liquors. By this method of managing it, obſtinate cutaneous and venereal diſtempers have been ſucceſſfully cured, without any remarkable increaſe of the ſenſible evacuations. It is ſometimes, however, difficult to meaſure its effects in this way; and it is ſo very apt to run off by the inteſtines, that we can ſeldom adminiſter it in ſuch a manner as to produce ſuch permanent effects as are often required, and as we are able to do by other preparations. It has lately been propoſed to rub the gums and inſide of the mouth with this preparation, as a ready and effectual method of producing ſalivation; this practice has been particularly

cularly recommended in the internal hydrocephalus, where it is exceedingly difficult to excite a salivation by other means. The advantages of this practice are not fully confirmed by experience; and when mercury is attended with advantage in hydrocephalus, this is not probably the consequence of any discharge under the form of salivation, but merely of the mercury being introduced into the system in an active state, and thus promoting absorption. And of this, salivation, when it arises from the internal use of mercury, may be considered as the strongest test: But this is by no means the case when salivation arises from a topical action on the excretories of saliva.

HYDRARGYRUS NITRATUS RUBER.

Lond.

Red nitrated quicksilver.

Take of
- Purified quicksilver,
- Nitrous acid, of each one pound;
- Muriatic acid, one dram.

Mix in a glass vessel, and dissolve the quicksilver in a sand-bath; then raise the fire until the matter be formed into red crystals.

MERCURIUS CORROSIVUS RUBER, vulgo PRECIPITATUS RUBER.

Edinb.

Red corrosive, commonly called *Red precipitate mercury.*

Take of
- Quicksilver,
- Weak nitrous acid, of each one pound.

Let the quicksilver be dissolved in the acid, and then let the solution be evaporated to a white dry mass. This being beat into a powder, must be put into a glass retort, and subjected to a fire gradually encreased, till a small quantity of it taken out in a glass spoon and allowed to cool, assumes the form of shining red squamæ. Let the vessel be then removed from the fire. During the process the matter must be carefully agitated by a glass rod, that it may be equally heated.

The marine acid in the menstruum, ordered in the first process, disposes the mercurial calx to assume the bright sparkling look admired in it; which, though perhaps no advantage to it as a medicine, ought nevertheless to be insisted on by the buyer as a mark of its goodness and strength. As soon as the matter has gained this appearance, it should be immediately removed from the fire, otherwise it will soon lose it again. The preparation of this red precipitate, as it is called, in perfection, is supposed by some to be a secret not known to our chemists; insomuch, that we are under the necessity of importing it from abroad. This reflection seems to be founded on misinformation: we sometimes indeed receive considerable quantities of it from Holland; but this depends upon the ingredients being commonly cheaper there than with us, and not upon any secret in the manner of the preparation.

This precipitate is, as its title imports, an escharotic, and with this intention is frequently employed by the surgeons with basilicum and other dressings, for consuming fungous flesh in ulcers, and the like purposes. It is subject to great uncertainty in point of strength; more or less of the acid exhaling, according to the degree and continuance of the fire. The best criterion of its strength, as already observed, is its brilliant appearance; which is also the mark of its genuineness: if mixed with minium, which it is sometimes said to be, the duller hue will

will diſcover the abuſe. This admixture may be more certainly detected by means of fire: the mercurial part will totally evaporate, leaving the minium behind.

Some have ventured to give this medicine internally, in venereal, ſcrophulous, and other obſtinate chronic diſorders, in doſes of two or three grains, or more. But certainly the milder mercurials, properly managed, are capable of anſwering all that can be expected from this; without occaſioning violent anxieties, tormina of the bowels, and ſimilar ill conſequences, which the beſt management can ſcarcely prevent this corroſive preparation from ſometimes inducing. The chemiſts have contrived ſundry methods of correcting and rendering it milder, by diveſting it of a portion of the acid; but to no very good purpoſe, as they either leave the medicine ſtill too corroſive, or render it ſimilar to others which are procurable at an eaſier rate.

CALX HYDRARGYRI ALBA.

Lond.

White calx of quickſilver.

Take of
Muriated quickſilver,
Sal ammoniac,
Water of kali, each half a pound.

Diſſolve firſt the ſal ammoniac, afterwards the muriated quickſilver in diſtilled water, and add the water of kali. Waſh the precipitated powder until it becomes inſipid.

MERCURIUS PRÆCIPITATUS ALBUS.

Edin.

White precipitate of mercury.

Diſſolve ſublimate corroſive mercury in a ſufficient quantity of hot water, and gradually drop into the ſolution ſome ſpirit of ſal ammoniac as long as any precipitation enſues. Waſh the precipitated powder with ſeveral freſh quantities of warm water.

These preparations are uſed chiefly in ointments; with which intention their fine white colour is no ſmall recommendation to them. For internal purpoſes they are rarely employed, nor is it at all wanted: they are nearly ſimilar to mercurius dulcis, but leſs certain in their effects.

Though the proceſſes directed by the London and Edinburgh colleges be here ſomewhat different, yet the preparations are ultimately the ſame. The proceſs deſcribed by the Edinburgh college is the moſt ſimple; but is liable to ſome objections.

Corroſive ſublimate, as we have already ſeen, conſiſts of mercury united with a large proportion of acid: it is there dulcified by adding as much freſh mercury as is ſufficient to ſatiate all the acid; here, by ſeparating all the acid that is not ſatiated. This laſt way ſeems an unfrugal one, on account not only of the loſs of the acid, but of the volatile ſpirit neceſſary for abſorbing it. The operator, may, however, if it ſhould be thought worth while, recover the volatile ſalt from the liquor, by adding to it, after the precipitate has been ſeparated, a proper quantity of potaſh, and diſtilling with a gentle heat, in the ſame manner as for the ſpirit or volatile ſalt of ſal ammoniac; for a true ſal ammoniac is regenerated, in the precipitation, from the union of the volatile ſpirit with the marine acid of the ſublimate. It is by no means adviſable to uſe the liquor itſelf as a ſolution of ſal ammoniac, or to ſeparate the ſal ammoniac from it by evaporation and cryſtalliſation, as a part of the mercury might be retained, and communicate dangerous qualities: but the volatile ſalt ſeparated by di-

diſtillation, may be uſed without fear of its containing any mercury; none of which will ariſe with the heat by which volatile ſalts are diſtilled.

Fixt alkalies anſwer as effectually, for precipitating ſolutions of ſublimate, as the volatile; but the precipitate, obtained by means of the former, inſtead of being white, as with the latter, is generally of a reddiſh yellow or orange colour. If ſal ammoniac be diſſolved along with the ſublimate, the addition of fixt alkalies will now, extricating the volatile alkali of the ſal ammoniac, occaſion as white a precipitation as if the volatile ſalt had been previouſly ſeparated and employed in its pure ſtate: and this compendium is now allowed by the London college in the proceſs which they have adopted.

There the ſal ammoniac, beſides its uſe in the capital intention, to make a white precipitation, promotes the ſolution of the ſublimate; which, of itſelf, is difficultly, and ſcarce at all totally, ſoluble by repeated boiling in water: for however ſkilfully it be prepared, ſome part of it will have an under-proportion of acid, and conſequently approach to the ſtate of mercurius dulcis. A good deal of care is requiſite in the precipitation; for if too large a quantity of the fixt alkaline ſolution be imprudently added, the precipitate will loſe the elegant white colour for which it is valued.

HYDRARGYRUS CUM SULPHURE.

Lond.

Quickſilver with ſulphur.

Take of
- Purified quickſilver,
- Flowers of ſulphur, each one pound.

Rub them together until the globules diſappear.

ÆTHIOPS MINERALIS.

Edinb.

Æthiops mineral.

Take of
- Quickſilver,
- Flowers of ſulphur, each equal weights.

Grind them together in a glaſs or ſtone mortar, with a glaſs peſtle, till the mercurial globules totally diſappear.

An ethiops is made alſo with a double quantity of mercury.

We need hardly remark, that theſe preparations, though now differing in name, are in reality the ſame. Nor need we add, that the direction given by the Edinburgh college, of uſing a glaſs or ſtone mortar and peſtle, is neceſſary and proper.

The union of the mercury and ſulphur might be much facilitated by the aſſiſtance of a little warmth. Some are accuſtomed to make this preparation in a very expeditious manner, by melting the ſulphur in an iron ladle, then adding the quickſilver, and ſtirring them together till the mixture be completed. The ſmall degree of heat here ſufficient, cannot reaſonably be ſuppoſed to do any injury to ſubſtances which have already undergone much greater fires, not only in the extraction from their ores, but likewiſe in the purifications of them directed in the pharmacopœia. In the following proceſs, they are expoſed in conjunction to a ſtrong fire, without ſuſpicion of the compound receiving any ill quality from it. Thus much is certain, that the ingredients are more perfectly united by heat than by the degree of triture uſually beſtowed upon them. From the ethiops prepared by triture, part of the mercury is apt to be ſpued out on making it into an electary or pills; from

from that made by fire, no separation is observed to happen.

Ethiops mineral is one of the most inactive of the mercurial preparations. Some practitioners, however, have represented it as possessing extraordinary virtues; and most people imagine it a medicine of some efficacy. But what benefit is to be expected from it in the common doses of eight or ten grains, or a scruple, may be judged from hence, that it has been taken in doses of several drams, and continued for a considerable time, without producing any remarkable effect. Sulphur eminently abates the power of all the more active minerals, and seems to be at the same time restrained by them from operating in the body itself. Boerhaave, who is in general sufficiently liberal in the commendation of medicines, disapproves of the ethiops in very strong terms "It cannot enter the absorbent "vessels, the lacteals, or lymphatics; "but passes directly through the "intestinal tube, where it may hap-"pen to destroy worms, if it ope-"rates luckily. They are deceived "who expect any other effects from "it; at least I myself could never "find them. I am afraid it is un-"warily given, in such large quan-"tities, to children and persons "of tender constitutions, as be-"ing a foreign mass, unconquer-"able by the body, the more to be "suspected, as it there continues "long sluggish and inactive. It "does not raise a salivation, because "it cannot come into the blood. "Who knows the effects of a sub-"stance, which, so long as it re-"mains compounded, seems no "more active than any ponder-"ous insipid earth?" The ethiops, with a double proportion of mercury now received into our pharmacopœias, has a greater chance for operating as a mercurial; and probably the quantity of mercury might be still further increased to advantage.

HYDRARGYRUS SULPHURATUS RUBER.

Lond.

Red sulphurated quicksilver.

Take of

Quicksilver purified, forty ounces;

Sulphur, eight ounces.

Mix the quicksilver with the melted sulphur; and if the mixture takes fire, extinguish it by covering the vessel; afterwards reduce the mass to powder, and sublime it.

It has been customary to order a larger quantity of sulphur than here directed: but smaller proportions answer better; for the less sulphur, the finer coloured is the cinnabar.

As soon as the mercury and sulphur begin to unite, a considerable explosion frequently happens, and the mixture is very apt to take fire, especially if the process be somewhat hastily conducted. This accident the operator will have previous notice of, from the matter swelling up, and growing suddenly consistent: as soon as this happens, the vessel must be immediately close covered.

During the sublimation, care must be had that the matter rise not into the neck of the vessel, so as to block up and burst the glass: to prevent this, a wide necked bolt head, or rather an oval earthen jar, coated, should be chosen for the subliming vessel. If the former be employed, it will be convenient to introduce at times an iron wire, somewhat heated, in order to be the better assured that the passage is not blocking up; the

the danger of which may be prevented by cautiouſly raiſing the veſſel higher from the fire.

If the ingredients were pure, no feces will remain: in ſuch caſes, the ſublimation may be known to be over, by introducing a wire as before, and feeling therewith the bottom of the veſſel, which will then be perfectly ſmooth: if any roughneſs or inequalities are perceived, either the mixture was impure, or the ſublimation is not completed; if the latter be the caſe, the wire will ſoon be covered over with the riſing cinnabar.

The preparers of cinnabar in large quantity, employ earthen jars, which in ſhape pretty much reſemble an egg. Theſe are of different ſizes, according to the quantity intended to be made at one ſublimation, which ſometimes amounts to two hundred weight. The jar is uſually coated from the ſmall end almoſt to the middle, to prevent its breaking from the vehemence or irregularity of the fire. The greater part, which is placed uppermoſt, not being received within the furnace, has no occaſion for this defence. The whole ſecret, with regard to this proceſs, is the management of the fire, which ſhould be ſo ſtrong as to keep the matter continually ſubliming to the upper part of the jar, without coming out at its mouth, which is covered with an iron plate; care ſhould alſo be taken to put into the ſubliming veſſel only ſmall quantities of the mixture at a time.

The principal uſe of cinnabar is as a pigment. It was formerly held in great eſteem as a medicine in cutaneous foulneſſes, gouty and rheumatic pains, epileptic caſes, &c. but of late it has loſt much of its reputation. It appears to be nearly ſimilar to the ethiops already ſpoken of. Cartheuſer relates, that having given cinnabar in large quantities to a dog, it produced no ſenſible effect, but was partly voided along with the feces unaltered, and partly found entire in the ſtomach and inteſtines upon opening the animal. The celebrated Frederick Hoffman, after beſtowing high encomiums on this preparation, as having, in many inſtances within his own knowledge, perfectly cured epilepſies and vertigoes from contuſions of the head (where it is probable, however, that the cure did not ſo much depend upon the cinnabar as on the ſpontaneous recovery of the parts from the external injury), obſerves, that the large repeated doſes, neceſſary for having any effect, can be borne only where the firſt paſſages are ſtrong; and that if the fibres of the ſtomach and inteſtines are lax and flaccid, the cinnabar, accumulated and concreting with the mucous matter of the parts, occaſions great oppreſſion; which ſeems to be an acknowledgment that the cinnabar is not ſubdued by the powers of digeſtion, and has no proper medicinal activity. There are indeed ſome inſtances of the daily uſe of cinnabar having brought on a ſalivation; perhaps from the cinnabar, made uſe of in thoſe caſes, having contained a leſs proportion of ſulphur than the ſorts commonly met with. The regulus of antimony, and even white arſenic, when combined with a certain quantity of common ſulphur, ſeem to have their deleterious power deſtroyed: on ſeparating more and more of the ſulphur, they exert more and more of their proper virulence. It does not ſeem unreaſonable to preſume, that mercury may have its activity varied in the ſame manner; that when perfectly ſatiated with ſulphur, it may be inert: and that when the quantity of ſulphur is more and more leſſened, the

the compound may have greater and greater degrees of the proper efficacy of mercurials.

Cinnabar is ſometimes uſed in fumigations againſt venereal ulcers in the noſe, mouth, and throat. Half a dram of it burnt, the fume being imbibed with the breath, has occaſioned a violent ſalivation. This effect is by no means owing to the medicine as cinnabar: when ſet on fire, it is no longer a mixture of mercury and ſulphur; but mercury reſolved into fume, and blended in part with the volatile vitriolic acid; in either of which circumſtances, this mineral, as already obſerved, has very powerful effects.

HYDRARGYRUS VITRIOLATUS.

Lond.

Vitriolated quickſilver.

Take of
Quickſilver, purified,
Vitriolic acid, each one pound.

Mix in a glaſs veſſel, and heat them by degrees, until they unite into a white maſs, which is to be perfectly dried with a ſtrong fire. This matter, on the affuſion of a large quantity of hot diſtilled water, immediately becomes yellow, and falls to powder. Rub the powder carefully with this water in a glaſs mortar. After the powder has ſubſided, pour off the water; and, adding more diſtilled water ſeveral times, waſh the matter till it become inſipid.

MERCURIUS FLAVUS, vulgo TURPETHUM MINERALE.

Edinb.

Yellow mercury, commonly called *Turbith mineral.*

Take of
Quickſilver, four ounces;
Vitriolic acid, eight ounces.

Cautiouſly mix them together, and diſtil in a retort, placed in a ſand-furnace, to dryneſs: the white calx, which is left at the bottom, being ground to powder, muſt be thrown into warm water. It immediately aſſumes a yellow colour, but muſt afterwards be purified by repeated ablutions.

The quantity of oil of vitriol, formerly directed, was double to that now employed by the Edinburgh college. The reduction made in this article greatly facilitates the proceſs; and the proportions of the London college are perhaps preferable.

Boerhaave directs this preparation to be made in an open glaſs, ſlowly heated, and then placed immediately upon burning coals; care being taken to avoid the fumes, which are extremely noxious. This method will ſucceed very well with a little addreſs when the ingredients are in ſmall quantity: but where the mixture is large, it is better to uſe a retort, placed in a ſand-furnace, with a recipient, containing a ſmall quantity of water luted to it. Great care ſhould be taken, when the oil of vitriol begins to bubble, to ſteadily keep up the heat, without at all increaſing it, till the ebullition ceaſes, when the fire ſhould be augmented to the utmoſt degree, that as much as poſſible of the redundant acid may be expelled.

If the matter be but barely exſiccated, it proves a cauſtic ſalt, which in the ablution with water will almoſt all diſſolve, leaving only a little quantity of turbith: the more of the acid that has been diſſipated, the leſs of the remaining mercury will diſſolve, and conſequently the yield of turbith will be greater; fire expelling only ſuch part of the acid as is not completely ſatiated with mercury, while water takes up always,

ways, along with the acid, a proportionable quantity of the mercury itself. Even when the matter has been ſtrongly calcined, a part will ſtill be ſoluble: this evidently appears upon pouring into the waſhings a little ſolution of fixt alkaline ſalt, which will throw down a conſiderable quantity of yellow precipitate, greatly reſembling the turbith, except that it is leſs violent in operation.

From this experiment it appears, that the beſt method of edulcorating this powder is, by impregnating the water, intended to be uſed in its ablution, with a determined proportion of fixt alkaline ſalt: for by this means, the waſhed turbith will not only turn out greater in quantity, but, what is of more conſequence, always have an equal degree of ſtrength; a circumſtance which deſerves particularly to be conſidered, eſpecially in making ſuch preparations as, from an error in the proceſs, may prove too violently corroſive to be uſed with any tolerable degree of ſafety. It is neceſſary to employ warm water if we are anxious for a fine colour. If cold water be uſed, the precipitate will be white.

It is obſervable, that though the ſuperfluous acid be here abſorbed from the mercury by the alkaline ſalt; yet in ſome circumſtances this acid forſakes that ſalt to unite with mercury. If *tartarum vitriolatum*, or *kali vitriolatum*, as it is now called, which is a combination of vitriolic acid with fixt alkalies, be diſſolved in water, and the ſolution added to a ſolution of mercury in aquafortis, the vitriolic acid will unite with the mercury, and form with it a turbith, which falls to the bottom; leaving only the alkali diſſolved in the aquafortis, and united with its acid into a regenerated nitre. On this principle depends the preparation deſcribed by Wilſon, under the title of *An excellent precipitate of mercury;* which is no other than a true turbith, though not generally known to be ſuch. It is made by diſſolving four ounces of kali vitriolatum in ſixteen ounces of ſpirit of nitre; diſſolving in this compound liquor four ounces of mercury; abſtracting the menſtruum by a ſand-heat; and edulcorating with water the gold-coloured maſs which remains.

Turbith mineral is a ſtrong emetic, and with this intention operates the moſt powerfully of all the mercurials that can be ſafely given internally. Its action, however, is not confined to the primæ viæ; it will ſometimes excite a ſalivation, if a purgative be not taken ſoon after it. This medicine is uſed chiefly in virulent gonorrhœas, and other venereal caſes, where there is a great flux of humours to the parts. Its chief uſe at preſent is in ſwellings of the teſticle from a venereal affection; and it ſeems not only to act as a mercurial, but alſo, by the ſevere vomiting it occaſions, to perform the office of a diſcutient, by accelerating the motion of the blood in the parts affected. It is ſaid likewiſe to have been employed with ſucceſs, in robuſt conſtitutions, againſt leprous diſorders, and obſtinate glandular obſtructions: the doſe is from two grains to ſix or eight. It may be given in doſes of a grain or two as an alterative and diaphoretic, in the ſame manner as the *mercurius calcinatus* already ſpoken of. Dr Hope has found, that the turbith mineral is the moſt convenient errhine he has had occaſion to employ.

This medicine was lately recommended as the moſt effectual preſervative againſt the hydrophobia. It has been alleged there are ſeveral examples of its preventing madneſs in dogs which had been bitten; and ſome

of its performing a cure after the madneſs was begun: from ſix or ſeven grains to a ſcruple may be given every day, or every ſecond day, for a little time, and repeated at the two or three ſucceeding fulls and changes of the moon. Some few trials have likewiſe been made on human ſubjects bitten by mad dogs; and in theſe alſo the turbith, uſed either as an emetic or alterative, ſeemed to have good effects.

The waſhings of turbith mineral are uſed by ſome, externally, for the cure of the itch and other cutaneous foulneſſes. In ſome caſes mercurial lotions may be proper, but they are always to be uſed with great caution: this is by no means an eligible one, as being extremely unequal in point of ſtrength; more or leſs of the mercury being diſſolved, as has been obſerved above, according to the degree of calcination. The pharmacopœia of Paris directs a mercurial waſh free from this inconvenience, under the title of *Aqua mercurialis*, or *Mercurius liquidus*. It is compoſed of one ounce of mercury, diſſolved in a ſufficient quantity of ſpirit of nitre, and diluted with thirty ounces of diſtilled water. In want of diſtilled water, rain water may be uſed; but of ſpring waters there are very few which will mix with the mercurial ſolution, without growing turbid and precipitating a part of the mercury.

SOLUTIO MERCURIALIS SIMPLEX.

Joſ. Jac. Plenck.

Simple mercurial ſolution.

Take of

Pureſt quickſilver, one dram;
Gum arabic, two drams.

Beat them in a ſtone mortar, adding by little and little diſtilled water of fumitory, till the mercury thoroughly diſappear in the mucilage.

Having beat and mixed them thoroughly, add by degrees, and at the ſame time rubbing the whole together,

Syrup of kermes, half an ounce;
Diſtilled water of fumitory, eight ounces.

This mixture was much celebrated by its author as an effectual preparation of mercury, unattended with the inconvenience of producing a ſalivation; and he imagined that this depended upon a peculiar affinity exiſting between mercury and mucilage. Hence ſuch a conjunction, the hydrargyrum gumminoſum, as it has been ſtyled, has been the foundation of mixtures, pills, ſyrups, and ſeveral other formulæ, as may be ſeen from the table of mercurial preparations in the materia medica.

By a long continued triture, mercury ſeems to undergo a degree of calcination; at leaſt its globular appearance is not to be diſcerned by the beſt microſcope: its colour is converted into that of a greyiſh powder; and from the inactive ſubſtance in its globular form, it is now become one of the moſt powerful preparations of this metallic body. The uſe of the gum ſeems to be nothing more, than to afford the interpoſition of a viſcid ſubſtance to keep the particles at a diſtance from each other, till the triture requiſite to produce this change be performed. Dr Saunders has clearly proved, that no real ſolution takes place in this proceſs, and that though a quantity of mercurial particles are ſtill retained in the mixture after the globular parts have been depoſited by dilution with water, yet that this ſuſpended mercurial matter is only diffuſed in the liquor, and capable of being perfectly ſeparated by filtration. That long triture is capable of effecting the above change on mer-

mercury, is fully evinced from the well-known experiment of Dr Boerhaave, in producing a kind of calcined mercury by expoſing quickſilver incloſed in a phial to the agitation produced by keeping the phial tied to a wind-mill for fourteen years. By incloſing a pound of quickſilver in an iron box, with a quantity of iron nails and a ſmall quantity of water, by the addition of which a greater degree of inteſtine motion is given to the particles of the mercury, and fixing the box to the wheel of a carriage, Dr Saunders obtained, during a journey of four hundred miles, two ounces of a greyiſh powder, or calx of mercury.

On the above accounts we are not to aſcribe the effects of Plenck's ſolution to an intimate diviſion of the globules of mercury, nor to any affinity, nor elective attraction, betwixt gum arabic and mercury; which laſt Mr Plenck has very unphiloſophically ſuppoſed. The ſame thing can be done by means of gum tragacanth, by honey, and by ſundry balſams. It is evidently owing to the converſion of the quickſilver to a calciform nature; but as this will be accompliſhed more or leſs completely, according to the different circumſtances during the triture, it is certainly preferable, inſtead of Plenck's ſolution, to diffuſe in mucilage, or other viſcid matters, a determinate quantity of the *Pulvis cinereus*, or other calx of mercury.

It is proper to take notice, that there is in many inſtances a real advantage in employing mucilaginous matters along with mercurials, theſe being found to prevent diarrhœa and ſalivation to a remarkable degree. So far, then, Mr Plenck's ſolution is a good preparation of mercury, tho' his chemical rationale is perhaps erroneous. The diſtilled water and ſyrup are of no conſequence to the preparation, either as facilitating the proceſs, or for medicinal uſe.

It is always moſt expeditious to triturate the mercury with the gum in the ſtate of mucilage. Dr Saunders found that the addition of honey was an excellent auxiliary; and the mucilage of gum tragacanth ſeems better ſuited for this purpoſe than that of gum arabic.

CHAP. XIV.

PRÆPARATA EX PLUMBO.

PREPARATIONS OF LEAD.

LEAD readily melts in the fire, and calcines into a dusky powder: which, if the flame is reverberated on it, becomes at first yellow, then red, and at length melts into a vitreous mass. This metal dissolves easily in the nitrous acid, difficultly in the vitriolic, and in small quantity in the vegetable acids; it is also soluble in expressed oil, especially when calcined.

Lead and its calces, whilst undissolved, have no considerable effects as medicines. Dissolved in oils, they are supposed to be (when externally applied) anti-inflammatory and desiccative. Combined with vegetable acids, they are remarkably so; and taken internally, prove a powerful but dangerous styptic.

There are two preparations of lead, *red* and *white lead*, as they are commonly called, which are much more extensively employed in other arts than in medicine, and of course they are prepared in large quantities. These formerly stood among the preparations in our pharmacopœias. But they are now referred to the materia medica. Accordingly we have already had occasion to make some observations with respect to them. But we shall here insert from the old editions of the Edinburgh pharmacopœia, the directions there given for preparing them.

MINIUM.

Red lead.

Let any quantity of lead be melted in an unglazed earthen vessel, and kept stirring with an iron spatula till it falls into powder, at first blackish, afterwards yellow, and at length of a deep red colour, in which last state it is called *minium;* taking care not to raise the fire so high as to run the calx into a vitreous mass.

THE preparation of red-lead is so troublesome and tedious, as scarce ever to be attempted by the apothecary or chemist; nor indeed is this commodity expected to be made by them, the preparation of it being a distinct branch of business. The makers melt large quantities of lead at once, upon the bottom of a reverberatory furnace built for this purpose, and so contrived, that the flame acts upon a large surface of the metal, which is continually changed by the means of iron rakes drawn backwards and forwards, till the fluidity of the lead is destroyed; after which, the calx is only now and then turned. By barely stirring the calx, as above directed, in a vessel over the fire, it acquires no redness; the reverberation of flame upon the surface being absolutely necessary for this effect. It is said, that twenty pounds of lead gain, in this process, five pounds; and that the calx, being reduced into lead again, is found one pound less than the original weight of the metal.

These calces are employed in external applications, for abating inflammations, cleansing and healing ulcers,

ulcers, and the like. Their effects, however, are not very considerable; nor are they perhaps of much farther real use, than as they give consistence to the plaster, unguent, &c.,

CERUSSA.

Ceruſſe, or white lead.

Put ſome vinegar into the bottom of an earthen veſſel, and ſuſpend over the vinegar very thin plates of lead, in ſuch a manner that the vapour which ariſes from the acid may circulate about the plates. Set the containing veſſel in the heat of horſe-dung for three weeks; if at the end of this time the plates be not totally calcined, ſcrape off the white powder, and expoſe them again to the ſteam of vinegar, till all the lead be thus corroded into powder.

The making of white lead alſo is become a trade by itſelf, and confined to a few perſons, who have large conveniences for this purpoſe. The general method which they follow, is nearly the ſame with that above deſcribed. See the Philoſophical Tranſactions, N° 137.

In this preparation, the lead is ſo far opened by the acid, as to diſcover, when taken internally, the malignant quality of the metal; and to prove externally, when ſprinkled on running ſores, or ulcers, moderately cooling, drying, and aſtrictive.

CERUSSA ACETATA.

Lond.

Acetated ceruſſe.

Take of

Ceruſſe, one pound;

Diſtilled vinegar, one gallon and an half.

Boil the ceruſſe with the vinegar until the vinegar is ſaturated; then filter through paper; and, after proper evaporation, ſet it aſide to cryſtallize.

SAL PLUMBI, vulgo SACCHARUM SATURNI.

Edinb.

Salt, commonly called *Sugar, of lead.*

Put any quantity of ceruſſe into a cucurbit, and pour upon it ten times its quantity of diſtilled vinegar. Let the mixture ſtand upon warm ſand till the vinegar becomes ſweet; when it is to be poured off, and freſh vinegar added as often as it comes off ſweet. Then let all the vinegar be evaporated in a glaſs-veſſel to the conſiſtence of pretty thin honey, and ſet it aſide in a cold place, that cryſtals may be formed, which are to be afterwards dried in the ſhade. The remaining liquor is again to be evaporated, that new cryſtals may be formed; the evaporation of the reſiduous liquor is to be repeated till no more cryſtals concrete.

Ceruſſe (eſpecially that ſort called *flake lead*, which is not, like the others, ſubject to adulteration) is much preferable either to minium or litharge, for making the ſugar of lead: for the corroſion, which it has already undergone from the ſteam of vinegar, diſpoſes it to diſſolve more readily. It ſhould be finely powdered before the vinegar be put to it; and during the digeſtion, or boiling, every now and then ſtirred up with a wooden ſpatula, to promote its diſſolution, and prevent its concreting into a hard maſs at the bottom. The ſtrong acid obtained from the *caput mortuum* of vinegar may be employed for this purpoſe to better advantage than the weaker, though purer acid, above directed. If a ſmall quantity of rectified ſpirit of wine be prudently added to the ſo-

lution as ſoon as it is duly exhaled, and the mixture ſuffered to grow cold by ſlow degrees, the ſugar will concrete into very large and tranſparent cryſtals, which are ſcarcely to be obtained by any other method.

If the cryſtals be dried in ſunſhine, they acquire a blackiſh or livid colour. This ſeems to happen from the abſorption of light and its converſion into phlogiſton. If it be owing to the eſcape of pure air, why are the rays of the ſun neceſſary to this diſcharge? On whatever principles we account for it, the fact is the ſame; that the cryſtals ſoon loſe their ſaline condition, and the lead gradually re-aſſumes its metallic form From this property of lead readily abſorbing phlogiſton, or parting with pure air, a ſolution of the ſaccharum ſaturni becomes a very convenient ſympathetic ink; on the ſame grounds it is alſo uſed for a more important purpoſe. As lead communicates a ſweetneſs and aſtringency very ſimilar to the product of the vinous fermentation, a practice formerly prevailed among fraudulent dealers, of correcting the too great ſharpneſs of acid wines by adulterating them with this metal. The abuſe may be detected in two different ways: a piece of paper may be wrote upon, or moiſtened, with the liquor to be examined, and then expoſed to the vapours of liver of ſulphur: the writ, or moiſtened paper, will become of a livid colour, and this will happen though two or three hundred leaves of a book were interpoſed between the paper and the vapours; by this method, then, we make a kind of ſympathetic ink. But the beſt way of making the teſt is, to drop a ſmall quantity of a ſolution of the liver of ſulphur into the ſuſpected liquor: if there be any lead preſent, this addition will inſtantly occaſion the precipitation of a livid or darkcoloured cloud.

The ſugar of lead is much more efficacious than the foregoing preparations, in anſwering the ſeveral intentions to which they are applied. Some have ventured upon it internally, in doſes of a few grains, as a ſtyptic, in hæmorrhagies, profuſe colliquative ſweats, ſeminal fluxes, the fluor albus, &c. nor has it failed their expectations. It very powerfully reſtrains the diſcharge; but almoſt as certainly as it does this, it occaſions ſymptoms of another kind, often more dangerous than thoſe removed by it, and ſometimes fatal. Violent pains in the bowels or through the whole body, and obſtinate conſtipations, ſometimes immediately follow, eſpecially if the doſe has been conſiderable: cramps, tremors, and weakneſs of the nerves, generally, ſooner or later, enſue.

Boerhaave is of opinion, that this preparation proves malignant only, as far as its acid happens to be *abſorbed* in the body; for in ſuch caſe, he ſays, "it returns again into ceruſſe, which is violently poiſonous." On this principle it would follow, that in habits where acidities abound, the ſugar of lead would be innocent. But this is far from being the caſe. Lead and its preparations act in the body only in as far as they are *combined* with acid: ceruſſe poſſeſſes the qualities of the ſaccharum only in a low degree; and either of them freed from the acid, has little, if any, effect at all. For the ſame reaſons, the ſal plumbi is preferable to the pompous *extract* and *vegeto mineral water* of Goulard, in which the lead is much leſs perfectly combined in a ſaline ſtate. It is ſometimes convenient to aſſiſt the ſolution of the ſaccharum ſaturni in water, by adding a portion of vinegar.

negar. The effects of the external application of lead seems to differ from the strength of the solution: thus a very weak solution seems to diminish directly the action of the vessels, and is therefore more peculiarly proper in active inflammations, as of the eyes; whereas a strong solution operates as a direct stimulant, and is therefore more successful in passive ophthalmia.

AQUA LITHARGYRI ACETATI.

Lond.

Water of acetated litharge.

Take of

Litharge, two pounds and four ounces;

Distilled vinegar, one gallon.

Mix, and boil to six pints, constantly stirring; then set it a side. After the feces have subsided, strain.

This preparation may be considered as nearly the same with the extract and vegeto-mineral water of Mr Goulard. And it is probably from the circumstances of his preparations having come into a common use, that the London college have given this article a place in their pharmacopœia. It may, however, be a matter of doubt whether it be really intitled to a place. For as we have already observed, every purpose to be answered by it may be better obtained from the employment of a solution of the cerussa acetata in simple water. The aqua lithargyri acetata is intended for external use only.

CHAP. XV.

PRÆPARATA E STANNO.

PREPARATIONS of TIN.

TIN easily melts in the fire, and calcines into a dusky powder; which, by a farther continuance of the heat, becomes white. A mass of tin heated till it be just ready to melt, proves extremely brittle, so as to fall in pieces from a blow; and by dexterous agitation, into powder. Its proper menstruum is aqua regia; though the other mineral acids also may be made to dissolve it, and the vegetable ones in small quantity. It crystallizes with the vegetable and vitriolic acids; but with the others, deliquates.

The virtues of this metal are little known. It has been recommended as an antihysteric, antihectic, &c. At present, it is chiefly used as an anthelmintic.

STANNUM PULVERATUM.

Lond.

Powdered tin.

Take of
Tin, ſix pounds.
Melt it in an iron veſſel, and ſtir it with an iron rod until a powder floats on the ſurface. Take off the powder, and, when cold, paſs it through a ſieve.

This preparation may be conſidered as nearly the ſame with the calx Jovis, which had a place in the former editions of the Edinburgh pharmacopœia; but from the late editions the calx has been expunged, and the limatura, or pulvis ſtanni, has a place only in their liſt of the materia medica. But although ſeldom prepared by the apothecary himſelf, it is not unfrequently employed as a remedy againſt worms, particularly the flat kinds, which too often elude the force of other medicines. The general doſe is from a ſcruple to a dram; ſome confine it to a few grains. But Dr Alſton aſſures us, in the Edinburgh Eſſays, that its ſucceſs chiefly depends upon its being given in much larger quantities: he directs an ounce of the powder on an empty ſtomach, mixed with four ounces of molaſſes; next day, half an ounce; and the day following, half an ounce more: after which, a cathartic is adminiſtered: he ſays the worms are uſually voided during the operation of the purge, but that pains of the ſtomach occaſioned by them are removed almoſt immediately upon taking the firſt doſe of the tin.

This practice is ſometimes ſucceſsful in the expulſion of tænia, but by no means ſo frequently as Dr Alſton's obſervations would lead us to hope.

STANNI AMALGAMA.

Dan.

Amalgam of tin.

Take of
Shavings of pure tin, two ounces;
Pure quickſilver, three drams.
Let them be rubbed to a powder in a ſtone mortar.

Some have imagined that tin thus acted upon by mercury, is in a more active condition than when exhibited in the ſtate of powder: and accordingly it has been given in worm caſes. But as both are equally inſoluble in the animal fluids, this is not to be expected; and to obtain any peculiar properties which tin may poſſeſs to their full extent, it will probably be neceſſary to exhibit it in ſome ſaline ſtate.

CHAP.

CHAP. XVI.

PRÆPARATA E ZINCO.

PREPARATIONS OF ZINC.

ZINCUM CALCINATUM.

Lond.

Calcined zinc.

Take of

Zinc, broken into ſmall pieces, eight ounces.

Caſt the pieces of zinc, at ſeveral times, into an ignited, large, and deep, crucible, placed leaning, or half-upright, putting upon it another crucible in ſuch a manner that the air may have free acceſs to the burning zinc.

Take out the calx as ſoon as it appears, and ſift its white and lighter part.

CALX ZINCI vulgo FLORES ZINCI.

Edinb.

Flowers of zinc.

Let a large crucible be placed in a furnace, in an inclined ſituation, only half upright; when the bottom of the veſſel is moderately red, put a ſmall piece of zinc, about the weight of two drams, into it. The zinc flames in a ſhort time, and is at the ſame time converted into a ſpongy calx, which is to be raked from the ſurface of the metal with an iron ſpatula, that the combuſtion may be more complete: when the zinc ceaſes to flame, take the calx out of the crucible. Having put in another piece of zinc, the operation may be repeated as often as you pleaſe. Laſtly, the calx is to be prepared like antimony.

These flowers, as uſed externally, are preferable for medicinal purpoſes to tutty, and the more impure ſublimates of zinc, which are obtained in the braſs works; and likewiſe to calamine, the natural ore of this metal, which contains a large quantity of earth, and frequently a portion of heterogeneous metallic matter. But beſides being applied externally, they have alſo of late been uſed internally. The flowers of zinc, in doſes from one to ſeven or eight grains, have been much celebrated of late years in the cure of epilepſy and ſeveral ſpaſmodic affections: and there are ſufficient teſtimonies of their good effects, where tonic remedies in thoſe affections are proper.

VITRIOLUM ALBUM.

Edin.

White vitriol.

Take of
Zinc, cut into ſmall pieces, three ounces;
Vitriolic acid, five ounces;
Water, twenty ounces.
Having mixed the acid and water, add the zinc, and when the ebullition is finiſhed ſtrain the liquor; then after proper evaporation ſet it apart in a cold place, that it may ſhoot into cryſtals.

This ſalt is an elegant white vitriol. It differs from the common white vitriol, and the fal vitrioli of the ſhops, only in being purer, and perfectly free from any admixture of copper, or ſuch other foreign metallic bodies as the others generally contain.

ZINCI VITRIOLATI PURIFICATIO.

Lond.

Purification of vitriolated zinc.

Take of
White vitriol one pound;
Vitriolic acid, one dram;
Boiling diſtilled water, three pints.
Mix, and filter through paper. After a proper evaporation, ſet it aſide in a cold place to cryſtallize.

Although the Edinburgh college have given a formula for the preparation of white vitriol, yet their direction is very rarely followed by any of the apothecaries or chemiſts, who in general purchaſe it as obtained from the Goſler mines. When, however, it is got in this way, it is often a very impure ſalt, and requires that purification which is here directed, and which is by no means neceſſary for the white vitriol artificially prepared, in the manner above directed. But by this proceſs, the ordinary white vitriol, in its common ſtate of impurity, will be freed from thoſe impregnations of earthy and other matters which it often contains. And in this purified ſtate it anſwers many uſeful purpoſes, not only externally but internally; and particularly in doſes from ten grains to half a dram, it operates almoſt inſtantly as an emetic, and is at the ſame time perfectly ſafe. By employing it internally, in ſmaller doſes, we may obtain, and perhaps even more effectually, all the tonic power of the zinc; and ſome think it in every caſe preferable to the calx zinci.

CHAP.

CHAP. XVII.

AQUÆ DISTILLATÆ.

London.

AQUÆ STILLATITIÆ SIMPLICES.

Edinburgh.

SIMPLE DISTILLED WATERS.

THE effluvia which exhale into the air from many vegetables, particularly from thoſe of the odorous kind, conſiſt apparently of principles of great ſubtility and activity, capable of ſtrongly and ſuddenly affecting the brain and nervous ſyſtem, eſpecially in thoſe whoſe nerves are of great ſenſibility; and likewiſe of operating in a ſlower manner, upon the ſyſtem of groſſer veſſels. Thus Boerhaave obſerves, that in hyſterical and hypochondriacal perſons, the fragrant odour of the Indian hyacinth excite ſtrange ſpaſms, which the ſtrong ſcent of rue relieves: that the effluvia of the walnut-tree occaſion headachs, and make the body coſtive; that thoſe of poppies procure ſleep; and that the ſmell of bean bloſſoms, long continued, diſorders the ſenſes. Lemery relates, from his own knowledge, that ſeveral perſons were purged by ſtaying long in a room where damaſk roſes were drying.

Some of the chemiſts have indulged themſelves in the pleaſing ſurvey of theſe preſiding ſpirits, as they are called, of vegetables; their peculiar nature in the different ſpecies of plants; their exhalation into the atmoſphere by the ſun's heat, and diſperſion by winds; their rendering the air of particular places medicinal, or otherwiſe, according to the nature of the plants that abound. They have contrived alſo different means for collecting theſe fugitive emanations, and concentrating and condenſing them into a liquid form; employing either the native moiſture of the ſubject, or an addition of water, as a vehicle or matrix for retaining them.

THE proceſs which has been judged moſt analagous to that of nature, is the following. The ſubject freſh gathered at the ſeaſon of its greateſt vigour, with the morning dew upon it, is laid lightly and unbruiſed in a ſhallow veſſel, to which is adapted a low head with a recipient; under the veſſel a live coal is placed, and occaſionally renewed, ſo as to keep up an uniform heat, no greater than that which obtains in the

the atmoſphere in ſummer, viz about 85 degrees of Farenheit's thermometer. In this degree of heat there ariſes, exceeding ſlowly, an inviſible vapour, which condenſes in the head into dewy drops, and falls down into the receiver; and which has been ſuppoſed to be the very ſubſtance that the plant would have ſpontaneouſly emitted in the open air.

But on ſubmitting to this proceſs many kinds of odoriferous vegetables, the liquors obtained by it have been found to be very different from the natural effluvia of the reſpective ſubjects: they have had very little ſmell, and no remarkable taſte. It appeared that a heat, equal to that of the atmoſphere, is incapable of raiſing in cloſe veſſels thoſe parts of vegetables which they emit in the open air. It may therefore be preſumed, that in this laſt caſe ſome other cauſe concurs to the effect: that it is not the ſun's heat alone which raiſes and impregnates the air with the odorous principles of vegetables, but that the air itſelf, or the watery humidity with which it abounds, acting as a true diſſolvent, extracts and imbibes them; ſo that the natural effluvia of a plant may be looked upon as an infuſion of the plant made in air. The purgative virtue of the damaſk-roſe, and the aſtringency of the walnut-tree, which, as above obſerved, are in ſome degree communicated to the air, may be totally extracted by infuſion both in watery and ſpirituous menſtrua, but never riſe in diſtillation with any degree of heat: and the volatile odours of aromatic herbs, which are diffuſed through the atmoſphere in the loweſt warmth, cannot be made to diſtil without a heat much greater than is ever found to obtain in a ſhaded air.

We apprehend, that the effluvia ariſing from growing vegetables, are chiefly exhaled by the living energy of the plant: the odorous matter is a real ſecretion, which cannot be performed independent of active veſſels; and it is reaſonable to allow the ſame powers for the exhalation of theſe effluvia as for the tranſpiration of their watery parts.

The above proceſs, therefore, and the theory on which it is built, appear to be faulty in two points: 1. In ſuppoſing that all thoſe principles, which naturally exhale from vegetables, may be collected by diſtillation; whereas there are many which the air extracts in virtue of its diſſolving power; ſome are alſo incapable of being collected in a viſible and inelaſtic form; and there are thoſe which are artificially ſeparable by diſſolvents only: 2. In employing a degree of heat inſufficient for ſeparating even thoſe parts which are truly exhalable by heat.

The foregoing method of diſtillation is commonly called *diſtillation by the cold ſtill;* but thoſe who have practiſed it, have generally employed a conſiderable heat. A ſhallow leaden veſſel is filled with the freſh herbs, flowers, &c. which are heaped above it; ſo that when the head is fitted on, this alſo may be filled a conſiderable way. A little fire is made under the veſſel, ſufficient to make the bottom much hotter than the hand can bear, care being taken only not to heat it ſo far as to endanger ſcorching any part of the ſubject. If the bottom of the veſſel be not made ſo hot as to have this effect on the part contiguous to it, it is not to be feared that the heat communicated to the reſt of the included matter will be great enough to do it any injury. By this management, the volatile parts of ſeveral odorous plants, as mint, are effectually forced over; and if the proceſs has been ſkilfully managed,

ged, the diſtilled liquor proves richly impregnated with the native odour and flavour of the ſubject, without having received any kind of diſagreeable impreſſion from the heat made uſe of.

This proceſs has been chiefly practiſed in private families; the ſlowneſs of the diſtillation, and the attendance and care neceſſary for preventing the ſcorching of ſome part of the plant, ſo as to communicate an ungrateful burnt flavour to the liquor, rendering it inconſiſtent with the diſpatch requiſite in the larger way of buſineſs.

Another method has therefore been had recourſe to, that by the common ſtill, called, in diſtinction from the foregoing, the *hot ſtill.* Here a quantity of water is added to the plant to prevent its burning; and the liquor is kept nearly of a boiling heat, or made fully to boil; ſo that the vapour riſes plentifully into the head, and paſſing thence into a ſpiral pipe or worm placed in a veſſel of cold water, is there condenſed, and runs out in drops quickly ſucceeding each other, or in a continued ſtream. The additional water does not at all weaken the produce; for the moſt volatile parts of the ſubject riſe firſt, and impregnate the liquor that firſt diſtils: as ſoon as the plant has given over its virtue ſufficiently, which is known by examining from time to time the liquor that runs from the noſe of the worm, the diſtillation is to be ſtopped.

This is the method of diſtillation commonly practiſed for the officinal waters. It is accompanied with one imperfection affecting chiefly thoſe waters whoſe principal value conſiſts in the delicacy of their flavour; this being not a little injured by the boiling heat uſually employed, and by the coagitation of the odorous particles of the ſubject with the water. Sometimes alſo a part of the plant ſticks to the ſides of the ſtill, and is ſo far ſcorched as to give an ungrateful taint to the liquor.

There is another method of managing this operation, which has been recommended for the diſtillation of the more volatile eſſential oils, and which is equally applicable to that of the waters. In this method, the advantages of the foregoing ones are united, and their inconveniences obviated. A quantity of water being poured into the ſtill, and the herbs or flowers placed in a baſket over it, there can be no poſſibility of burning; the water may be made to boil, but ſo as not to riſe up into the baſket, which would defeat the intention of this contrivance. The hot vapour of the water paſſing lightly through all the interſtices of the ſubject matter, imbibes and carries over the volatile parts unaltered in their native flavour. By this means the diſtilled waters of all thoſe ſubſtances whoſe oils are of the more volatile kind, are obtained in the utmoſt perfection, and with ſufficient diſpatch; for which laſt intention the ſtill may be filled quite up to the head.

In the diſtillation of eſſential oils, the water, as was obſerved in the foregoing ſection, imbibes always a part of the oil. The diſtilled liquors here treated of, are no other than water thus impregnated with the eſſential oil of the ſubject; whatever ſmell, taſte, or virtue, is here communicated to water, or obtained in the form of a watery liquor, being found in a concentrated ſtate in the oil. The eſſential oil, or ſome part of it, more attenuated and ſubtilized than the reſt, is the direct principle on which the title of *ſpiritus rector*, or

or preſiding ſpirit, has been beſtowed.

All thoſe vegetables therefore which contain an eſſential oil, will give over ſome virtue to water by diſtillation: but the degree of the impregnation of the water, or the quantity of water which a plant is capable of ſatiating with its virtue, are by no means in proportion to the quantity of its oil. The oil ſatiates only the water that comes over at the ſame time with it: if there be more oil than is ſufficient for this ſaturation, the ſurplus ſeparates, and concretes in its proper form, not miſcible with the water that ariſes afterwards. Some odoriferous flowers, whoſe oil is in ſo ſmall quantity, that ſcarcely any viſible mark of it appears, unleſs fifty or an hundred pounds or more are diſtilled at once, give nevertheleſs as ſtrong an impregnation to water as thoſe plants which abound moſt with oil.

Many have been of opinion, that diſtilled waters may be more and more impregnated with the virtues of the ſubject, and their ſtrength increaſed to any aſſigned degree, by *cohobation*, that is, by rediſtilling them a number of times from freſh parcels of the plant. Experience, however, ſhows the contrary; a water ſkilfully drawn in the firſt diſtillation, proves on every repeated one not ſtronger but more diſagreeable. Aqueous liquors are not capable of imbibing above a certain quantity of the volatile oil of vegetables; and this they may be made to take up by one, as well as by any number of diſtillations: the oftener the proceſs is repeated, the ungrateful impreſſion which they generally receive from the fire, even at the firſt time, becomes greater and greater. Thoſe plants which do not yield at firſt waters ſufficiently ſtrong, are not proper ſubjects for this proceſs, ſince their virtue may be obtained much more advantageouſly by others.

General Rules for the Diſtillation *of the* Officinal Simple Waters.

I.

Where they are directed freſh, ſuch only muſt be employed: but ſome are allowed to be uſed dry, as being eaſily procurable in this ſtate at all times of the year, though rather more elegant waters might be obtained from them whilſt green.

When freſh and juicy herbs are to be diſtilled, thrice their weight of water will be fully ſufficient; but dry ones require a much larger quantity. In general, there ſhould be ſo much water, that after all intended to be diſtilled has come over, there may be liquor enough left to prevent the matter from burning to the ſtill.

II.

The diſtillation may be performed in an alembic with a refrigeratory, the junctures being luted.

III.

Plants differ ſo much, according to the ſoil and ſeaſon of which they are the produce, and likewiſe according to their own age, that it is impoſſible to fix the quantity of water to be drawn from a certain weight of them to any invariable ſtandard. The diſtillation may always be continued as long as the liquor runs well-flavoured off the ſubject, and no longer.

If the herbs are of prime goodneſs, they muſt be taken in the weights preſcribed: but when freſh ones are ſubſtituted to dry or when the plants themſelves are the produce

produce of unfavourable ſeaſons, and weaker than ordinary, the quantities are to be varied according to the diſcretion of the artiſt.

After the odorous water, alone intended for uſe, has come over, an acidulous liquor ariſes, which has ſometimes extracted ſo much from the copper head of the ſtill as to prove emetic. To this are owing the anthelmintic virtues attributed to certain diſtilled waters.

IV.

In a preceding edition of the Edinburgh pharmacopœia, ſome vegetables were ordered to be ſlightly fermented with the addition of yeſt, previouſly to the diſtillation.

The principle on which this management is founded, is certainly juſt; for the fermentation ſomewhat opens and unlocks their texture, ſo as to make them part with more in the ſubſequent diſtillation than could be drawn over from them without ſome aſſiſtance of this kind. Thoſe plants, however, which require this treatment, are not proper ſubjects for ſimple waters to be drawn from, their virtues being obtainable to better advantage by other proceſſes.

V.

If any drops of oil ſwim on the ſurface of the water, they are to be carefully taken off.

VI.

That the waters may keep the better, about one-twentieth part their weight of proof-ſpirit may be added to each after they are diſtilled.

A great number of diſtilled waters were formerly kept in the ſhops, and are ſtill retained in foreign pharmacopœias. The Faculty of Paris direct, in the laſt edition of their *Codex Medicamentarius*, no leſs than one hundred and twenty-five different waters, and one hundred and thirty different ingredients in one ſingle water. Near one half of theſe preparations have ſcarcely any virtue or flavour from the ſubject, and many of the others are inſignificant.

The Colleges of London and Edinburgh have rejected theſe oſtentatious ſuperfluities, and given an elegant and compendious ſet of waters, ſufficient for anſwering ſuch purpoſes as theſe kinds of preparations are applied to in practice. Diſtilled waters are employed chiefly as grateful diluents, as ſuitable vehicles for medicines of greater efficacy, or for rendering diſguſtful ones more acceptable to the palate and ſtomach; few are depended on, with any intention of conſequence, by themſelves.

AQUA DISTILLATA.

Lond.

Diſtilled water.

Take of

Spring-water, ten gallons.

Draw off by diſtillation, firſt, four pints; which being thrown away, draw off four gallons. his water is to be kept in a glaſs or earthen bottle with a glaſs ſtopper.

AQUA DISTILLATA.

Edin.

Diſtilled water.

Let well or river water be diſtilled in very clean veſſels till about two thirds are drawn off.

Native water is ſeldom or never found pure, and generally contains earthy, ſaline, metallic, or other matters. Diſtillation is therefore employed as a means of freeing it of theſe heterogeneous parts. For ſome

ſome pharmaceutical purpoſes diſtilled water, is abſolutely neceſſary: thus, if we employ hard undiſtilled water for diſſolving ſugar of lead, inſtead of a perfect ſolution, we produce a milky like cloud, owing to a real decompoſition of parts.

Diſtilled water is now employed by the London college for a great variety of purpoſes; and there can be no doubt, that in many chemical and pharmaceutical proceſſes, the employment of a heterogeneous fluid, in place of the pure element, may produce an eſſential alteration of qualities, or fruſtrate the intention in view. While the London college have made more uſe of diſtilled water than any other, their directions for preparing it ſeem to be the beſt. For as ſome impregnation may be more volatile than pure water, it is freed from theſe by throwing away what comes firſt over; and by keeping it afterwards in a cloſe veſſel, abſorption from the air is prevented.

AQUA ANETHI.

Lond.

Dill-water.

Take of
  Dill-ſeed, bruiſed, one pound;
  Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

AQUA SEMINUM ANETHI SIMPLEX.

Edin.

Simple dill-ſeed water.

Take of
  Dill-ſeeds, one pound;
Pour on as much water as when ten pounds have been drawn off by diſtillation, there may remain as much as is ſufficient to prevent an empyreuma.
After proper maceration, let ten pounds be drawn off.

Although the dill-water holds a place, not only in the London and Edinburgh pharmacopœias, but alſo in moſt of the foreign ones; yet it is not much employed in practice. It obtains, indeed, a pretty ſtrong impregnation from the ſeeds, and is ſometimes employed as a carminative, particularly as the baſis of mixtures and juleps; but it is leſs powerful and leſs agreeable than that of pepper-mint, cinnamon, and ſome others.

AQUA CINNAMOMI.

Lond. Ed.

Cinnamon-water.

Take of
  Cinnamon, bruiſed, one pound;
  Water, ſufficient to prevent an empyreuma.
Macerate for twenty-four hours, and draw off one gallon.

From one pound of cinnamon the Edinburgh college direct ten pounds of water to be drawn off; and if the cinnamon employed be of good quality, it may yield that quantity with a ſtrong impregnation; but what comes over firſt is unqueſtionably the ſtrongeſt.

This is a very grateful and uſeful water, poſſeſſing in an eminent degree the fragrance and aromatic cordial virtues of the ſpice. Where real cinnamon-water is wanted, care ſhould be had in the choice of the cinnamon, to avoid the too common impoſition of caſia being ſubſtituted in its room. The two drugs may be eaſily diſtinguiſhed from each other by the marks laid down under the reſpective articles in the Second Part of this work: but the eſſential oils of the two approach ſo near, that after diſtillation it is perhaps impoſſible to diſtinguiſh the waters; and it is ſtill more doubtful how far the

the one is in any degree preferable to the other.

The oil of cinnamon is very ponderous, and ariſes more difficultly than that of any of the other vegetable matters from which ſimple waters are ordered to be drawn. This obſervation directs us, in the diſtillation of this water, to make uſe of a quick fire and a low veſſel For the ſame reaſon, the water does not keep ſo well as might be wiſhed; the ponderous oil parting from it in time, and falling to the bottom, when the liquor loſes its milky hue, its fragrant ſmell, and aromatic taſte. Some recommend a ſmall proportion of ſugar to be added, in order to keep the oil united with the water.

AQUA CASSIÆ LIGNEÆ.

Edinb.

Caſſia-water.

From a pound and a half of the caſſia bark, ten pounds of water are directed to be drawn off in the ſame manner as the dill water.

This diſtilled water, as we have already obſerved, when properly prepared, approaches ſo near to that of cinnamon, that it is almoſt, if not altogether, impoſſible to diſtinguiſh the difference between the two. And although the London college have given it no place in their pharmacopœia, yet we may venture to aſſert, that it is no ſtranger to the ſhops of the apothecaries. Nay, ſo great is the difference of price, and ſo little of ſenſible qualities, that what is ſold under the name of cinnamon-water is almoſt entirely prepared from caſſia alone; and not even prepared from the caſſia bark, as directed by the Edinburgh college, but from the caſſia buds, which may be had at a ſtill cheaper rate, and which yield preciſely the ſame eſſential oil, although in leſs quantity. When caſſia water is prepared preciſely according to the directions of the Edinburgh college, from containing a larger proportion of the ſubject, it has in general a ſtronger impregnation than their genuine cinnamon water, and is probably in no degree inferior in its virtues.

AQUA FÆNICULI.

Lond.

Fennel-water.

Take of

Sweet fennel-ſeeds, bruiſed, one pound;

Water ſufficient to prevent an empyreuma.

Draw off one gallon.

The water of fennel-ſeeds is not unpleaſant. A water has alſo been diſtilled from the leaves. When theſe are employed, they ſhould be taken before the plant has run into flower; for after this time they are much weaker, and leſs agreeable. Some have obſerved, that the upper leaves and tops, before the flowers appear, yield a more elegant water, and a remarkably finer eſſential oil than the lower ones; and that the oil obtained from the one ſwims on water, whilſt that of the other ſinks. No part of the herb, however, is equal in flavour to the ſeeds.

AQUA MENTHÆ PIPERITIDIS.

Lond.

Peppermint-water.

Take of

Herb of peppermint, dried, one pound and an half;

Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

Edinb.

Edinb.

From three pounds of the leaves of peppermint, ten pounds of water are to be drawn off.

This is a very elegant and useful water; it has a warm pungent taste, exactly resembling that of the peppermint itself. A spoonful or two taken at a time, warm the stomach, and give great relief in cold, flatulent colics. Some have substituted a plain infusion of the dried leaves of the plant, which is not greatly different in virtue from the distilled water.

In the distillation of this water, a considerable quantity of essential oil in general comes over in its pure state. And it is not uncommon to employ this for impregnating other water, with which it may be readily mixed by the acid of a little sugar.

AQUA MENTHÆ SATIVÆ.

Lond.

Spearmint-water.

Take of

Spearmint, dried, one pound and an half;

Water, sufficient to prevent an empyreuma.

Draw off one gallon.

The Edinburgh college direct this water to be made in the same proportion as the preceding. But probably three pounds of the fresh herb will not give a stronger impregnation than a pound and a half of the dried: So that the water of the London college may be considered as being as strongly impregnated as that of the Edinburgh college.

This water smells and tastes very strongly of the mint; and proves in many cases an useful stomachic. Boerhaave commends it (cohobated) as a present and incomparable remedy for strengthening a weak stomach, and curing vomiting proceeding from cold viscous phlegm; and also in lienteries.

AQUA PIMENTO.

Lond. Edinb.

All-spice water.

Take of

All-spice, bruised, half a pound.

Water sufficicient to prevent an empyreuma.

Macerate for twenty-four hours, and draw off one gallon.

From half a pound of the pimento, the Edinburgh college direct ten pounds of water to be drawn off; so that the impregnation is there somewhat weaker than the above.

This distilled water is a very elegant one, and has of late come pretty much into use: the hospitals employ it as a succedaneum to the more costly spice waters: It is, however, inferior in gratefulness to the spirituous water of the same spice hereafter directed.

AQUA PULEGII.

Lond. Ed.

Pennyroyal-water.

Take of

Dried herb pennyroyal, one pound and an half;

Water, sufficient to prevent an empyreuma.

Draw off one gallon.

The penny-royal water is directed to be prepared by the Edinburgh college in the same proportions as they have ordered with the mint and peppermint. Whether prepared from the recent or dried plant, it possesses in a considerable degree the smell, taste, and virtues, of the penny-royal. It is not unfrequently employed in hysterical cases, and sometimes with a good effect.

A-

AQUA ROSÆ.

Lond. Edinb.

Roſe water.

Take of

Freſh petals of the damaſk roſe, the white heels being cut off, ſix pounds;

Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

From the ſame quantity the Edinburgh college direct ten pounds to be drawn off.

This water is principally valued on account of its fine flavour, which approaches to that generally admired in the roſe itſelf. The purgative virtue of the roſes remains entire in the liquor left in the ſtill, which has therefore been generally employed for making the ſolutive honey and ſyrup, inſtead of a decoction or infuſion of freſh roſes prepared on purpoſe: And this piece of frugality the college have now admitted. A diſtilled water of red roſes has been ſometimes called for in the ſhops, and ſupplied by that of damaſk roſes, diluted with common water: this is a very venial ſubſtitution; for the water drawn from the red roſe has no quality which that of the damaſk does not poſſeſs in a far ſuperior degree; neither the purgative virtue of the one, nor the aſtringency of the other, ariſing in diſtillation.

AQUA CORTICIS MALORUM LIMONIORUM RECENTIUM.

Edinb.

Lemon-peel water.

From two pounds of recent lemon-peel ten pounds of water are to be drawn off by diſtillation.

AQUA CORTICIS AURANTIORUM HISPALENTIUM RECENSIUM.

Edinb.

Orange-peel water.

From two pounds of orange-peel, ten pounds of water alſo are directed to be drawn off.

Neither of theſe diſtilled waters are now to be met with in the London pharmacopœia; and it is probable that no great loſs ariſes from the want of them. For both the one and the other obtain only a very weak impregnation. They are chiefly employed as diluters in fevers and other diſorders where the ſtomach and palate are very apt to be diſguſted. And perhaps the only circumſtance for which they are valuable is the ſlightneſs of the impregnation. For in ſuch affections, any flavour, however agreeable at other times, often becomes highly diſguſtful to patients.

The diſtilled water above taken notice of are the whole that have now a place in the pharmacopœias of the London and Edinburgh colleges. And perhaps this ſelection is ſufficiently large for anſwering every uſeful purpoſe. But beſides theſe, a conſiderable number of others are ſtill retained even in the modern foreign pharmacopœias; ſome of which at leaſt it may not be improper to mention.

AQUA ALEXITERIA.

Brun.

Alexiterial water.

Take of

Elder flowers, moderately dried, three pounds;

Angelica leaves, freſh gathered, two pounds;

Spring water, forty pounds.

Draw off, by diſtillation, thirty pounds.

This water is ſufficiently elegant with regard to taſte and ſmell; tho' few expect from it ſuch virtues as

its title seems to imply. It is used occasionally for vehicles of alexipharmac medicines, or in juleps to be drank after them, as coinciding with the intention; but in general, is not supposed to be itself of any considerable efficacy.

AQUA CAMPHORÆ.

Brun.

Camphor-water.

Take of

Camphor, an ounce and an half.

Let it be dissolved in half an ounce of the spirit of rosemary, then pour upon it two pounds of fountain water, and draw off by distillation a pound and an half.

This distilled water, which has no place in our pharmacopœias, is introduced into some of the foreign ones. And since camphor may be considered as a concrete essential oil, it naturally occurs as a form under which that medicine may be introduced with advantage in a diluted state.

AQUA CASTOREI.

Brun.

Castor water.

Take of

Russia castor, one ounce;

Water, as much as will prevent burning.

Draw off two pints.

Castor yields almost all its flavour in distillation to water; but treated in the same manner with spirit of wine, gives over nothing. The spirit of castor formerly kept in the shops had none of the smell or virtues of the drug; whilst the water here directed proves, when fresh drawn, very strong of it.

It is remarkable, that the virtues of this animal-substance reside in a volatile oil, analogous to the essential oils of vegetables: some are reported to have obtained, in distilling large quantities of the drug, a small portion of oil, which smelt extremely strong of the castor, and diffused its ungrateful scent to a great distance.

This water is made use of in hysteric cases, and some nervous complaints, though it has not been found to answer what many people expect from it: it loses greatly of its flavour in keeping.

And it is probably from this circumstance that it has no place either in our pharmacopœias or in the modern foreign ones. But at the same time, as holding to a high degree the sensible qualities of the castor, it may be considered as justly deserving future attention.

AQUA CEREFOLII.

Gen.

Chervil-water.

Take of

Fresh leaves of chervil, one pound;

Fountain water, as much as is sufficient for allowing eight pounds to be drawn off by distillation, at the same time avoiding empyreuma.

Although the chervil be but little employed in Britain, yet among some of the foreigners it is held in high esteem. And the distilled water is perhaps one of the most elegant forms under which its active parts can be introduced. But there is reason to believe, that those diuretic powers for which it has been chiefly celebrated, will be most certainly obtained from exhibiting it in substance, or under the form of the expressed juice of the recent plant.

A-

AQUA CERASI.

Suec.

Black-cherry water.

Take of

Ripe black cherries bruiſed with the kernels, 20 pounds;

Fountain water, as much as is ſufficient for avoiding empyreuma.

Draw off 20 pounds by diſtillation.

This water, although now baniſhed from our pharmacopœias, has long maintained a place in the foreign ones, and even in Britain it is not unfrequently to be met with in the ſhops. It has often been employed by phyſicians as a vehicle, in preference to the other diſtilled waters; and among nurſes who have the care of young children, has been the firſt remedy againſt the convulſive diſorders to which infants are ſo often ſubject.

This water has nevertheleſs of late been brought into diſrepute, and by ſome looked upon as poiſonous. They obſerve, that it receives its flavour principally from the cherry ſtones; and that theſe kernels, like many others, bear a reſemblance in taſte to the leaves of the lauro-ceraſus, which have been diſcovered to yield, by infuſion or diſtillation, the moſt ſudden poiſon known; ſome phyſicians of Worceſter have lately found, by trial purpoſely made, that a diſtilled water very ſtrongly impregnated with the flavour of the cherry kernels (no more than two pints being diſtilled from fourteen pounds of the cherry ſtones) proved in like manner poiſonous to brutes. The London college repeated the ſame experiment, and found the effects agreeable to thoſe gentlemens report.

It by no means follows from theſe trials, nor after ſuch long experience can it be imagined, that black-cherry water, when no ſtronger than the ſhops have been accuſtomed to prepare it, is unſafe. Theſe kernels plainly reſemble opium, and ſome other things, which poiſon only when taken in too great a quantity; the water from the very laurel leaves is harmleſs when duly diluted; and even ſpirit of wine proves a poiſon of its kind, not greatly different, if drank to a certain degree of exceſs. Nor can it be concluded, from the trials with the ſtrong black-cherry water on dogs, &c. that even this will have the ſame effects in the human body; the kernels of many ſorts of fruits being in ſubſtance poiſonous to brutes though innocent to man.

It is poſſible, however, that this water in any degree of ſtrength may not be altogether ſafe to the tender age of infants, where the principles of life are but juſt beginning as it were to move: it is poſſible, that it may there have had pernicious effects, without being ſuſpected: the ſymptoms it would produce, if it ſhould prove hurtful, being ſuch as children are often thrown into from the diſeaſe which it is imagined to relieve. On theſe conſiderations, both the London and Edinburgh colleges have choſen to lay it aſide; more eſpecially as it has been too often counterfeited with a water diſtilled from bitter almonds, which are known to communicate a poiſonous quality. It is, however, one of thoſe active articles which may perhaps be conſidered as deſerving farther attention.

AQUA CHAMOMILLÆ FLORUM.

Dan.

Camomile flower water.

Take of

Camomile flowers, dried in the ſhade, eight pounds;

Water, ſeventy-two pounds; draw off by gentle diſtillation forty-eight pounds.

Camomile flowers were formerly ordered to be fermented previouſly to the diſtillation, a treatment which they ſtand little in need of; for they give over without any fermentation as much as that proceſs is capable of enabling them to do. In either caſe the ſmell and peculiar flavour of the flowers ariſe without any thing of the bitterneſs; this remaining behind in the decoction; which, if duly depurated and inſpiſſated, yields an extract ſimilar to that prepared from the flowers in the common manner. The diſtilled water has been uſed in flatulent colics, and the like, but is at preſent held in no great eſteem.

AQUA FRAGORUM.

Suec.

Strawberry-water.

From twenty pounds of ſtrawberries, twenty pounds of diſtilled water are drawn off, according to the ſame directions given for the preparation of the black-cherry water.

Water thus impregnated with the eſſential oil of the ſtrawberries, will have what to ſome people will be a very agreeable flavour; but any conſiderable medical power is not to be expected from it.

AQUA HYSSOPI.

Suec.

Hyſſop-water.

From four pounds of the freſh leaves of hyſſop, ſix pounds of water are drawn off.

Hyssop water has been held by ſome in conſiderable eſteem as an uterine and a pectoral medicine. It was directed in a former edition of the Edinburgh pharmacopœia for making up the black pectoral troches, but is now exchanged for common water. Few at preſent expect any ſingular virtues from it, nor is it often to be met with in our ſhops, being now expunged from our pharmacopœias. It holds a place, however, in moſt of the foreign ones, and among ourſelves there are ſtill ſome practitioners who frequently employ it. But there can be no doubt that thoſe medical properties which the hyſſop contains, may be more readily and effectually extracted by ſimple infuſion.

AQUA LILIORUM ALBORUM.

Brun.

White-lilly water.

AQUA LILIORUM CONVALLIUM.

Brun.

May-lily water.

To any quantity of theſe flowers, four times their weight of water is to be added, and water drawn off by diſtillation in the proportion of two pounds to each pound of the flowers.

These waters muſt obtain ſome impregnation of that elegant eſſential oil, on which the odour of flowers in their growing ſtate depends. But they do not poſſeſs any remarkable medical properties.

AQUA MELISSÆ.

Brun.

Balm-water.

The green leaves of the balm are to be macerated with double their weight of water; and from each pound of the plant a pound and an half of water is to be drawn off.

This

This water obtains a conſiderable impregnation from the balm, which yields its eſſential oil pretty freely on diſtillation. Though now baniſhed from our pharmacopœias it has ſtill a place in moſt of the foreign ones. In the old editions of the Edinburgh pharmacopœia, this water was ordered to be cohobated, or re-diſtilled, from freſh quantities of the herb. This management ſeems to have been taken from Boerhaave, who has a very high opinion of the water thus prepared: he ſays, he has experienced in himſelf extraordinary effects from it, taken on an empty ſtomach; that it has ſcarce its equal in hypochondriacal and hyſterical caſes, the chlorofis, and palpitation of the heart, as often as theſe diſeaſes proceed from a diſorder of the ſpirits, rather than from any collection of morbific matter.

But whatever virtues are lodged in balm, may be much more perfectly and advantageouſly extracted by cold infuſion in aqueous or ſpirituous menſtrua: in this laſt proceſs, the liquor ſuffers no injury from being returned on freſh parcels of the herb; a few repetitions will load it with the virtues of the ſubject, and render it very rich. The impregnation here is almoſt unlimited; but in diſtilled waters it is far otherwiſe.

And as far as any advantage can be obtained from it, this may be had perhaps to its fulleſt extent by a ſimple diſtillation in the manner here directed.

AQUA RUTÆ.

Roſs.

Rue-water.

From each pound of rue, with a ſufficient quantity of ſpring water to prevent empyreuma, two pounds of diſtilled water are to be drawn.

Rue gives over in this proceſs the whole of its ſmell, and great part of its pungency. The diſtilled water ſtands recommended in epileptic caſes, the hyſteric paſſion, for promoting perſpiration, and other natural ſecretions. But though ſtill a good deal employed abroad, it is with us falling into diſrepute.

AQUA SABINÆ.

Savin-water.

This is diſtilled from the freſh leaves of ſavin, after the ſame manner as the other already mentioned.

This water is by ſome held in conſiderable eſteem for the ſame purpoſes as the diſtilled oil of ſavin. Boerhaave relates, that he has found it (when prepared by cohobation) to give an almoſt incredible motion to the whole nervous ſyſtem; and that when properly uſed, it proves eminently ſerviceable for promoting the menſes and the hæmorrhoidal flux.

It has now, however, fallen ſo much into diſrepute as to have no place either in our pharmacopœias or in the beſt modern foreign ones: But at the ſame time, when we reflect how readily ſavin yields a large proportion of active eſſential oil on diſtillation, it may perhaps be conſidered as better intitled to attention than ſome other diſtilled waters which are ſtill retained.

AQUA SAMBUCI.

Brun.

Elder flower water.

This is diſtilled from freſh elder flowers, after the ſame manner as the white-lilly water.

This water ſmells conſiderably of the flowers; but is rarely made uſe of among us.

AQUA SALVIÆ.

Brun.

Sage-water.

This is directed to be prepared from the green leaves of the ſage in the ſame manner as the balm water.

SAGE leaves contain a conſiderable proportion of eſſential oil, which they yield pretty freely on diſtillation. But their whole medical properties may with ſtill greater eaſe and advantage be extracted by ſimple infuſion.

To the ſimple diſtilled waters the London college have annexed the following remarks.

We have ordered the waters to be diſtilled from the dried herbs, becauſe freſh are not ready at all times of the year. Whenever the freſh are uſed, the weights are to be increaſed. But, whether the freſh or dried herbs be employed, the operator may vary the weight according to the ſeaſon in which they have been produced and collected.

Herbs and ſeeds, kept beyond the ſpace of a year, are improper for the diſtillation of waters.

To every gallon of theſe waters add five ounces, by meaſure, of proof-ſpirit.

CHAP. XVIII.

SPIRITUS DISTILLATI.

DISTILLED SPIRITS.

THE flavour and virtues of diſtilled waters are owing, as obſerved in the preceding chapter, to their being impregnated with a portion of the eſſential oil of the ſubject from which they are drawn. Spirit of wine, conſidered as a vehicle for theſe oils, has this advantage above water, that it is their proper menſtruum, and keeps all the oil that riſes with it perfectly diſſolved into an uniform limpid liquor.

Nevertheleſs, many ſubſtances, which, on being diſtilled with water, impart to it their virtues in great perfection; if treated in the ſame manner with ſpirit of wine, ſcarce give over to it any ſmell or taſte. This difference proceeds from hence, that ſpirit is not ſuſceptible of ſo great a degree of heat as water. Liquids in general, when made to boil, have received as great a heat as they are capable of ſuſtaining: now, if the extent of heat between freezing and boiling water, as meaſured by thermometers, be taken for a ſtandard, ſpirit of wine will be found to boil with leſs than four-fifths of that heat, or above one-fifth leſs than the heat of boiling

boiling water. It is obvious therefore, that ſubſtances may be volatile enough to riſe with the heat of boiling water, but not with that of boiling ſpirit.

Thus, if cinnamon, for inſtance, be committed to diſtillation with a mixture of ſpirit of wine and water, or with a pure proof-ſpirit, which is no other than a mixture of about equal parts of the two; the ſpirit will ariſe firſt, clear, colourleſs, and tranſparent, and almoſt without any taſte of the ſpice; but as ſoon as the more ponderous watery fluid begins to ariſe, the oil comes freely over with it, ſo as to render the liquor highly odorous, ſapid, and of a milky hue.

The proof-ſpirits uſually met with in the ſhops are accompanied with a degree of ill flavour; which, tho' concealed by means of certain additions, plainly diſcovers itſelf in diſtillation, This nauſeous reliſh does not begin to ariſe till after the purer ſpirituous part has comes over; which is the very time that the virtues of the ingredients begin alſo moſt plentifully to diſtil; and hence the liquor receives an ungrateful taint. To this cauſe principally is owing the general complaint, that the cordials of the apothecary are leſs agreeable than thoſe of the ſame kind prepared by the diſtiller; the latter being extremely curious in rectifying or purifying the ſpirits (when deſigned for what he calls fine goods) from all ill flavour.

ALCOHOL.

Lond.

Ardent ſpirit.

Take of

Rectified ſpirit of wine, one gallon;

Kali, made hot, one pound and an half;

Pure kali, one ounce.

Mix the ſpirit of wine with the pure kali, and afterwards add one pound of the hot kali; ſhake them, and digeſt for twenty-four hours. Pour off the ſpirit, to which add the reſt of the kali, and diſtil in a water bath. It is to be kept in a veſſel well ſtopped.

The ſpecific gravity of the alcohol is to that of diſtilled water as 815 to 1000.

We have already offered ſome obſervations on ſpirit of wine both in the ſtate of what is called rectified and proof ſpirit. But in the preſent formula we have ardent ſpirit ſtill more freed from an admixture of water than even the former of theſe. And in this ſtate it is unquestionably beſt fitted for anſwering ſome purpoſes. It may therefore juſtly be conſidered as an omiſſion in the preſent edition of the Edinburgh Pharmacopœia, that they have no analogous form. In former editions of this work, alcohol was directed to be prepared from French brandy. But this is rather too dear an article in this country for diſtillation; nor is the ſpirit obtained from it any ways preferable to one procurable from cheaper liquors. The coarſer inflammable ſpirits may be rendered perfectly pure, and fit for the niceſt purpoſes, by the following method.

If the ſpirit be exceedingly foul, mix it with about an equal quantity of water, and diſtil with a ſlow fire; diſcontinuing the operation as ſoon as the liquor begins to run milky, and diſcovers, by its nauſeous taſte, that the impure and phlegmatic part is ariſing. By this treatment, the ſpirit leaves a conſiderable portion of its foul oily matter behind it in the water, which now appears milky and turbid, and proves highly diſagreeable in taſte.

If the ſpirit be not very foul at firſt, this ablution is not neceſſary; if extremely ſo, it will be needful to repeat it once, twice, or oftener.

As vinous ſpirits ariſe with a leſs degree of fire than watery liquors, we are hence directed to employ, in the diſtillation of them, a heat leſs than that in which water boils: and if due regard be had to this circumſtance, very weak ſpirits may, by one or two wary diſtillations, be tolerably well freed from their aqueous phlegm; eſpecially if the diſtilling veſſels are of ſuch a height, that the ſpirit, by the heat of a water-bath, may but juſt paſs over them; in this caſe, the phlegmatic vapours which ariſe for a little way along with the ſpirit, will condenſe and fall back again before they can come to the head. Very pompous inſtruments have been contrived for this purpoſe, and carried in a ſpiral or ſerpentine form to an extraordinary height. The ſpirit, aſcending through theſe, was to leave all the watery parts it contained, in its paſſage, and come over perfectly pure and free from phlegm But theſe inſtruments are built upon erroneous principles, their extravagant height defeating the end it was deſigned to anſwer: if the liquor be made to boil, a conſiderable quantity of mere phlegm will come over along with the ſpirit; and if the heat be not raiſed to this pitch, neither phlegm nor ſpirit will diſtil. The moſt convenient inſtrument is the common ſtill; between the body of which and its head an adopter or copper tube may be fixed.

The ſpirit being waſhed, as above directed, from its foul oil, and freed from the greateſt part of the phlegm by gentle diſtillation in a water-bath; add to every gallon of it a pound or two of pure, dry, fixt alkaline ſalt. Upon digeſting theſe together for a little time, the alkali, from its known property of attracting water and oils, will imbibe the remaining phlegm, and ſuch part of the diſagreeable unctuous matter as may ſtill be left in the ſpirit, and ſink with them to the bottom of the veſſel. If the ſpirit be now again gently drawn over, it will ariſe entirely free from its phlegm and nauſcous flavour; but ſome particles of the alkaline ſalt are apt to be carried up with it, and give what the workmen call an urinous reliſh: this may be prevented by adding, previous to the laſt diſtillation, a ſmall proportion of calcined vitriol, alum, or ſal catharticus amarus; the acid of theſe ſalts will unite with, and neutralize the alkali, and effectually prevent it from ariſing; while no more of the acid of the ſalts is extricated than what the alkali abſorbs.

The ſpirit obtained by this means is extremely pure, limpid, perfectly flavourleſs, and fit for the fineſt purpoſes. It may be reduced to the ſtrength commonly underſtood by proof, by mixing twenty ounces of it with ſeventeen ounces of water. The diſtilled cordials made with theſe ſpirits prove much more elegant and agreeable, than when the common rectified or proof-ſpirits of the ſhops are made uſe of.

If the rectified ſpirit be diſtilled afreſh from dry alkaline ſalt, with a quick fire, it brings over a conſiderable quantity of the ſalt; and in this ſtate is ſuppoſed to be a more powerful menſtruum for certain ſubſtances than the pure ſpirit. This alkalized ſpirit is called TARTARIZED SPIRIT OF WINE.

The proceſs here deſcribed, which was long ſince recommended by Dr Lewis, will ſufficiently explain the intention of the London college, in

the directions they have now given for the preparation of alcohol. And there can be no doubt, that by their proceſs a very pure alcohol may be obtained. Of this we have a ſufficient teſt in the ſpecific gravity of the fluid which comes over, which is to that of diſtilled water only as 815 to 1000, while the ſpecific gravity of proper rectified ſpirit, is as 835 to 1000.

SPIRITUS ÆTHERIS VITRIOLICI.

Lond.

Spirit of vitriolic æther.

Take of

Rectified ſpirit of wine,

Vitriolic acid, each one pound.

Pour in by a little at a time the acid to the ſpirit, and mix them by ſhaking; then from a retort into a tubulated receiver, to which another recipient is fitted, diſtil the ſpirit of vitriolic æther till ſulphureous vapours begin to riſe.

ACIDUM VITRIOLICUM VINOSUM, vulgo SPIRITUS VITRIOLI DULCIS.

Edin.

Vinous vitriolic acid, commonly called *Dulcified ſpirit of vitriol.*

Take of

Vitriolic æthereal liquor, one part;

Rectified ſpirit of wine, two parts.

Mix them.

The laſt of theſe proceſſes is a very ready and convenient method of preparing the dulcified ſpirit of vitriol, which only differs from ether by the acid being more predominant, and leſs intimately combined.

In the firſt proceſs, a good deal of caution is requiſite in mixing the two liquors. Some direct the ſpirit of wine to be put firſt into the retort, and the oil of vitriol to be poured upon it all at once; a method of procedure by no means adviſeable, as a violent heat and ebullition always enſue, which not only diſſipate a part of the mixture, but hazard alſo the breaking of the veſſel, to the great danger of the operator. Others put the oil of vitriol into the retort firſt; then by means of a funnel, with a long pipe that may reach down juſt to the ſurface of the acid, pour in the ſpirit of wine: if this be done with ſufficient caution, the vinous ſpirit ſpreads itſelf on the ſurface of the oil of vitriol, and the two liquors appear diſtinct. On ſtanding for a week or two, the vinous ſpirit is gradualled imbibed, without any commotion, and the veſſel may then be ſafely ſhaken to complete the mixture: but if the ſpirit be poured in too haſtily at firſt, or if the veſſel be moved before the two liquors have in ſome degree incorporated, the ſame effect enſues as in the foregoing caſe. The only ſecure way is, to add the oil of vitriol to the ſpirit of wine by a little quantity at a time, waiting till the firſt addition be incorporated before another quantity is put in: by this management, the heat that enſues is inconſiderable, and the mixture is effected without any inconvenience.

The diſtillation ſhould be performed with an equable and very gentle heat, and not continued ſo long as till a black froth begins to appear: for before this time, a liquor will ariſe of a very different nature from the ſpirit here intended. The ſeveral products are moſt commodiouſly kept apart by uſing a tubulated receiver, ſo placed, that its pipe may convey the matter which ſhall come over into a vial ſet underneath. The juncture of the re-

retort and recipient is to be luted with a paste made of linseed meal, and further secured by a piece of wet bladder; the lower juncture may be closed only with some soft wax, that the vial may be occasionally removed with ease.

The true dulcified spirit arises in thin subtle vapours, which condense upon the sides of the recipient in straight striæ. It is colourless as water, very volatile, inflammable, of an extremely fragrant smell, in taste somewhat aromatic.

After the fire has been kept up for some time, white fumes arise; which either form irregular striæ, or are collected into large round drops like oil: On the first appearance of these, the vial, or the receiver, if a common one is made use of, must be taken away. If another be substituted, and the distillation continued, an acid liquor comes over, of an exceeding pungent smell, like the fumes of burning brimstone. At length a black froth begins hastily to arise, and prevents carrying the process further.

On the surface of the sulphureous spirit is found swimming a small quantity of oil, of a light yellow colour, a strong, penetrating, and very agreeable smell. This oil seems to be nearly of the same nature with the essential oils of vegetables. It readily and totally dissolves in rectified spirit of wine, and communicates to a large quantity of that menstruum the taste and smell of the aromatic or dulcified spirit.

The matter remaining after the distillation is of a dark blackish colour, and still highly acid. Treated with fresh spirit of wine, in the same manner as before, it yields the same productions; till at length all the acid that remains unvolatilized being satiated with the inflammable oily matter of the spirit, the compound proves a bituminous sulphureous mass; which, exposed to the fire in open vessels, readily burns, leaving a considerable quantity of fixed ashes; in close ones, it explodes with violence; and with fixt alkaline salts, forms a compound nearly similar to one composed of alkalies and sulphur.

The new names adopted by the London and Edinburgh colleges for denominating this fluid, the one employing the term of *Spiritus ætheris vitriolici*, the other of *Acidum vitriolicum vinosum*, seem to us to be equally exceptionable; and perhaps the old term of *Spiritus vitrioli dulcis* is not less properly fitted to distinguish it from other fluids, and to convey a proper idea of its nature than either.

Dulcified spirit of vitriol has been for some time greatly esteemed, both as a menstruum and a medicine. It dissolves some resinous and bituminous substances more readily than spirit of wine alone, and extracts elegant tinctures from sundry vegetables. As a medicine, it promotes perspiration and the urinary secretion, expels flatulencies, and in many cases abates spasmodic strictures, eases pains, and procures sleep. The dose is from ten to eighty or ninety drops in any convenient vehicle. It is not essentially different from the celebrated anodyne liquor of Hoffman; to which it is, by the author himself, not unfrequently directed as a succedaneum.

Of this fluid, however, or at least of an article probably still more nearly resembling it, we shall afterwards have occasion to speak, when we treat of the *Spiritus ætheris vitriolici vinosus*.

ÆTHER VITRIOLICUS.

Lond.

Vitriolic æther.

Take

Take of
The ſpirit of vitriolic æther, two pounds,
Water of pure kali, one ounce.
Shake them together, and diſtil, with a gentle heat, fourteen ounces by meaſure.

LIQUOR ÆTHEREUS VITRIOLICUS.

Edin.

Vitriolic æthereal liquor.

Take of
Rectified ſpirit of wine,
Vitriolic acid, of each thirty-two ounces.
Pour the ſpirit into a glaſs retort fit for ſuſtaining a ſudden heat, and add to it the acid in an uniform ſtream. Mix them by degrees, frequently ſhaking them moderately: this done, inſtantly diſtil from ſand previouſly heated for that purpoſe, into a receiver kept cool with water or ſnow. But the heat is to be ſo managed, that the liquor ſhall boil at firſt, and continue to boil till ſixteen ounces are drawn off; then let the retort be raiſed out from the ſand.
To the diſtilled liquor add two drams of the cauſticum commune acerrimum; then diſtil again in a highly raiſed retort with a very gentle heat, into a cool receiver, until ten ounces have been drawn off.
If ſixteen ounces of rectified ſpirit of wine be poured upon the acid remaining in the retort after the firſt diſtillation, an ethereal liquor may be obtained by repeating the diſtillation. This may be done pretty often.

The preparation of this ſingular fluid, now received into public pharmacopœias, was formerly confined to a few hands; for though ſeveral proceſſes have been publiſhed for obtaining it, the ſucceſs of moſt of them is precarious, and ſome of them are accompanied alſo with danger to the operator. The principal difficulty conſiſts in the firſt part of the diſtillation.

It has been uſual to direct the heat to be kept up till a black froth begins to appear; but if it is managed in the manner here directed, the quantity of æther which the liquor can afford will be formed and drawn off before this ſulphureous froth appears. The uſe of the cauſtic alkali, is to engage any uncombined vitriolic acid which may be preſent in the firſt diſtilled liquor. If a mild alkali were employed for this purpoſe, the ſeparation of its air by the acid might endanger the burſting of the veſſels. This laſt is indeed an inconvenience which attends the whole of this proceſs. It might in a great meaſure be obviated by employing a range of receivers, ſuch as the *adopter* deſcribed in the firſt part of this work.

The æther, or ætherial ſpirit, is the lighteſt, moſt volatile and inflammable, of all known liquids. It is lighter than the moſt highly rectified ſpirit of wine, in the proportion of about 7 to 8: a drop, let fall on the hand, evaporates almoſt in an inſtant, ſcarcely rendering the part moiſt. It does not mix, or only in a ſmall quantity, with water, ſpirit of wine, alkaline lixivia, volatile alkaline ſpirits, or acids; but is a powerful diſſolvent for oils, balſams, reſins, and other analogous ſubſtances: it is the only known ſubſtance capable of diſſolving the *elaſtic gum.* It has a fragrant odour, which, in conſequence of the volatility of the fluid, is diffuſed through a large ſpace. It has often been found to give

give eaſe in violent headachs, by being applied externally to the part; and to relieve the toothach, by being laid on the afflicted jaw. It has been given alſo internally, with benefit, in whooping coughs, hyſterical caſes, in aſthma, and indeed in almoſt every ſpaſmodic affection, from a few drops to the quantity of half an ounce, in a glaſs of wine or water; which ſhould be ſwallowed as quickly as poſſible, as the æther ſo ſpeedily exhales.

SPIRITUS ÆTHERIS NITROSI.

Lond.

Spirit of nitrous æther.

Take of
- Rectified ſpirit of wine, two pints,
- Nitrous acid, half a pound.

Mix them, by pouring in the acid to the ſpirit, and diſtil with a gentle heat one pound ten ounces.

ACIDUM NITRI VINOSUM, vulgo SPIRITUS NITRI DULCIS.

Edin.

Vinous acid of nitre, commonly called *Dulcified ſpirit of nitre.*

Take of
- Rectified ſpirit of wine, three pounds;
- Nitrous acid, one pound.

Pour the ſpirit into a capacious phial, placed in a veſſel full of cold water, and add the acid by degrees, conſtantly agitating them. Let the phial be ſlightly covered, and laid by for ſeven days in a cool place; then diſtil the liquor with the heat of boilng water into a receiver kept cool with water or ſnow, till no more ſpirit comes over.

By allowing the acid and rectified ſpirit to ſtand for ſome time, the union of the two is not only more complete, but the danger alſo of the veſſels giving way to the ebullition and heat conſequent on their being mixed, is in a great meaſure prevented. By fixing the degree of heat to the boiling point, the ſuperabundant acid matter is left in the retort, being too ponderous to be raiſed by that degree of heat.

Here the operator muſt take care not to invert the order of mixing the two liquors, by pouring the vinous ſpirit into the acid; for if he ſhould, a violent effervescence and heat would enſue, and the matter be diſperſed in highly noxious red fumes. The moſt convenient and ſafe method of performing the mixture ſeems to be, to put the inflammable ſpirit into a large glaſs body with a narrow mouth, placed under a chimney, and to pour upon it the acid, by means of a glaſs funnel, in very ſmall quantities at a time; ſhaking the veſſel as ſoon as the effervescence enſuing upon each addition ceaſes, before a freſh quantity is put in: by this means, the glaſs will heat equally, and be prevented from breaking. During the action of the two ſpirits upon each other, the veſſel ſhould be lightly covered: if cloſe ſtopt, it will burſt; and if left entirely open, ſome of the more valuable parts will exhale. Lemery directs the mixture to be made in an open veſſel; by which unſcientifical procedure, he uſually loſt, as he himſelf obſerves, half his liquor; and we may preſume, that the remainder was not the medicine here intended.

Several methods have been contrived for obviating the inconveniences ariſing from the elaſtic fluid and violent exploſions produced on the mixture of the nitrous acid and rectified ſpirit of wine: for preparing the nitrous æther they are abſolutely neceſſary, and might perhaps

haps be conveniently uſed for making the dulcified ſpirit. The method we judge to be the beſt, is that employed by Dr Black. On two ounces of the ſtrong acid put into a phial, the Doctor pours, ſlowly and gradually, about an equal quantity of water; which, by being made to trickle down the ſides of the phial, floats on the ſurface of the acid without mixing with it; he then adds, in the ſame cautious manner, three ounces of highly rectified ſpirit of wine, which in its turn floats on the ſurface of the water. By this means the three fluids are kept ſeparate on account of their different ſpecific gravities, and a ſtratum of water is interpoſed between the acid and ſpirit. The phial is now ſet in a cool place: the acid gradually aſcends, and the ſpirit deſcends through the water, this laſt acting as a boundary to reſtrain their violent action on each other. By this method a quantity of nitrous æther is formed, without the danger of producing elaſtic vapours or exploſion.

For the preparation of the dulcified ſpirit, the liquors, when mixed together, ſhould be ſuffered to reſt for ſome time, as above directed, that the fumes may entirely ſubſide, and the union be in ſome meaſure completed. The diſtillation ſhould be performed with a very ſlow and well regulated fire; otherwiſe the vapour will expand with ſo much force as to burſt the veſſels. Wilſon ſeems to have experienced the juſtneſs of this obſervation, and hence directs the juncture of the retort and receiver not to be luted, or but ſlightly: if a tubulated recipient, with its upright long pipe, be made uſe of, and the diſtillation performed with the heat of a water-bath, the veſſels may be luted without any danger: this method has likewiſe another advantage, as it aſcertains the time when the operation is finiſhed: examining the diſtilled ſpirit every now and then with alkaline ſalts, as directed above, is ſufficiently troubleſome; whilſt in a water-bath we may ſafely draw over all that will ariſe; for this heat will elevate no more of the acid than what is dulcified by the vinous ſpirit.

Dulcified ſpirit of nitre has been long held, and not undeſervedly, in great eſteem. It quenches thirſt, promotes the natural ſecretions, expels flatulencies, and moderately ſtrengthens the ſtomach: it may be given from twenty drops to a dram, in any convenient vehicle. Mixed with a ſmall quantity of ſpirit of hartſhorn, the ſpiritus volatilis aromaticus, or any other alkaline ſpirit, it proves a mild, yet efficacious, diaphoretic, and often remarkably diuretic; eſpecially in ſome febrile caſes, where ſuch a ſalutary evacuation is wanted. A ſmall proportion of this ſpirit added to malt ſpirits, gives them a flavour approaching to that of French brandy.

SPIRITUS AMMONIÆ.

Lond.

Spirit of ammonia.

Take of
- Proof-ſpirit, three pints;
- Sal ammoniac, four ounces;
- Pot-aſh, ſix ounces.

Mix, and diſtil with a ſlow fire one pint and an half.

SPIRITUS SALIS AMMONIACI VINOSUS.

Edin.

Vinous ſpirit of ſal ammoniac.

Take of
- Quicklime, ſixteen ounces;
- Sal ammoniac, eight ounces;
- Rectified ſpirit of wine, thirty-two ounces.

Having ſlightly bruiſed and mixed the

the quicklime and ammoniacal ſalt, put them into a glaſs retort; then add the ſpirit, and diſtil in the manner directed for the volatile cauſtic alkali, till all the ſpirit has paſſed over.

This ſpirit has lately come much into eſteem, both as a medicine and a menſtruum. It is a ſolution of volatile ſalt in rectified ſpirit of wine; for though proof-ſpirit be made uſe of, its phlegmatic part does not ariſe in the diſtillation, and ſerves only to facilitate the action of the pure ſpirit upon the ammoniacal ſalt. Rectified ſpirit of wine does not diſſolve volatile alkaline ſalts by ſimple mixture: on the contrary, it precipitates them, as has been already obſerved, when they are previouſly diſſolved in water: but by the preſent proceſs, a conſiderable proportion of the volatile alkali is combined with the ſpirit. It might perhaps, for ſome purpoſes, be more adviſable to uſe with this intention the volatile ſpirit made with quicklime; for this may be mixed at once with rectified ſpirit of wine, in any proportions, without the leaſt danger of any ſeparation of the volatile alkali.

The name here employed by the London college, particularly when put in contradiſtinction to the aqua ammonia, conveys a clear idea of the article, and is, we think, preferable to that employed by the Edinburgh college.

As a menſtruum, the ſpiritus ammoniæ is employed to diſſolve eſſential oils, thus forming the ſpiritus volatilis aromaticus, or *ſpiritus ammoniæ compoſitus*, as it is now called by the London college, which again is employed in forming the tinctures of guaiac, valerian, &c.

The chief medical virtues which the ſpiritus ammoniæ poſſeſſes, when exhibited by itſelf, are thoſe of the volatile alkali.

SPIRITUS AMMONIÆ FOETIDUS.

Lond.

Fetid ſpirit of ammonia.

Take of
- Proof-ſpirit of wine, ſix pints;
- Sal ammoniac, one pound;
- Aſafœtida, four ounces,
- Pot-aſh, one pound and an half.

Mix them, and draw off by diſtillation five pints, with a ſlow fire.

Edinb.

Take of
- Vinous ſpirit of ſal ammoniac, eight ounces;
- Aſafœtida, half an ounce.

Digeſt in a cloſe veſſel twelve hours; then diſtil off with the heat of boiling water eight ounces.

This ſpirit, the laſt formula of which is in our opinion the beſt, as being moſt eaſily prepared without any riſk of being injured in the preparation, is deſigned as an antihyſteric, and is undoubtedly a very elegant one. Volatile ſpirits, impregnated for theſe purpoſes with different fetids, have been uſually kept in the ſhops: the ingredient here made choice of, is the beſt calculated of any for general uſe, and equivalent in virtue to them all. The ſpirit is pale when newly diſtilled, but acquires a conſiderable tinge in keeping.

SPIRITUS ANISI COMPOSITUS.

Lond.

Compound ſpirit of aniſeed.

Take of
- Aniſeed,
- Angelica-ſeed, of each, bruiſed, half a pound;
- Proof-ſpirit of wine, one gallon,

Water,

Water, ſufficient to prevent an empyreuma.
Draw off one gallon by diſtillation.

THIS compound ſpirit is now directed to be prepared by the London college in the ſame manner as in their former edition. It has no place in the Edinburgh pharmacopœia; but it may juſtly be conſidered as a very elegant aniſeed water. The angelica ſeeds greatly improve the flavour of the aniſe. It is often employed with advantage, particularly in caſes of flatulent cholic; but it has been alleged to be ſometimes too frequently uſed with this intention as a domeſtic medicine, eſpecially by old ladies: for unleſs it be prudently and cautiouſly employed, it may ſoon be attended with all the pernicious conſequences of dram-drinking.

SPIRITUS CARUI.

Lond.

Spirit of caraway

Take of
Caraway-ſeeds, bruiſed, half a pound;
Proof-ſpirit of wine, one gallon;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

AQUA CARVI SPIRITUOSA.

Edinb.

Spiritous caraway water.

Take of
Caraway ſeeds, half a pound,
Proof-ſpirit, nine pounds.
Macerate two days in a cloſe veſſel; then pour on as much water as will prevent an empyreuma, and draw off by diſtillation nine pounds.

BY this proceſs the ſpirit obtains in great perfection the flavour of the caraway-ſeeds; and with ſome it is a cordial not uncommonly in uſe.

SPIRITUS CINNAMOMI.

Lond.

Spirit of cinnamon.

Take of
Bruiſed cinnamon one pound;
Proof-ſpirit of wine, one gallon;
Water, ſufficient to prevent an empyreuma.
Draw off one gallon.

AQUA CINNAMOMI SPIRITUOSA.

Edinb.

Spirituous cinnamon water.

From one pound of cinnamon, nine pounds of ſpirit are to be drawn off, in the ſame manner as in the caraway ſpirit.

THIS is a very agreeable and uſeful cordial, but not ſo ſtrong of the cinnamon as might be expected; for very little of the virtues of the ſpice ariſes till after the pure ſpirituous part has diſtilled. Hence in the former editions of the London Pharmacopœia, the diſtillation was ordered to be protracted till two pints more than here directed were come over. By this means, the whole virtue of the cinnamon was more frugally than judiciouſly obtained; for the diſagreeable flavour of the feints of proof-ſpirits, and the acidulous liquor ariſing from cinnamon as well as other vegetables when their diſtillation is long continued, give an ill reliſh to the whole; at the ſame time that the oil which was extracted from the ſpice was by this acid thrown down.

In the Pharmacopœia Reformata, it is propoſed to make this ſpirit by mixing the aqua cinnamomi ſimplex with ſomewhat leſs than an equal quantity of rectified ſpirit: on ſhaking them together, the liquor loſes its

its milky hue, ſoon becomes clear; and more elegant than the water diſtilled as above: it is equally ſtrong of the cinnamon, and free from the nauſeous taint with which the common proof-ſpirits are impregnated.

SPIRITUS JUNIPERI COMPOSITUS.

Lond.

Compound ſpirit of Juniper.

Take of
- Juniper-berries, bruiſed, one pound;
- Caraway-ſeeds, bruiſed,
- Sweet-fennel ſeeds, of each one ounce and an half;
- Proof-ſpirit of wine, one gallon;
- Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

AQUA JUNIPERI COMPOSITA.

Edin.

Compound juniper water.

Take of
- Juniper berries, well bruiſed, one pound,
- Seeds of caraway, ſweet fennel, each an ounce and a half;
- Proof-ſpirit, nine pounds.

Macerate two days; and having added as much water as will prevent an empyreuma, draw off by diſtillation nine pounds.

This water, mixed with about an equal quantity of the rob of juniper berries, proves an uſeful medicine in catarrhs, debility of the ſtomach and inteſtines, and ſcarcity of urine. The water by itſelf is a good cordial and carminative: the ſervice which this and other ſpirituous waters do with theſe intentions is commonly known; though the ill conſequences that follow from their conſtant uſe are too little regarded.

SPIRITUS LAVENDULÆ.

Lond.

Spirit of lavender.

Take of
- Freſh flowers of lavender, one pound and an half;
- Proof ſpirit of wine, one gallon.

Draw off by diſtillation in a water-bath, five pints.

SPIRITUS LAVENDULÆ SIMPLEX.

Edin.

Simple ſpirit of lavender.

Take of
- Flowering ſpikes of lavender, freſh gathered, two pounds;
- Rectified ſpirit of wine, eight pounds.

Draw off by the heat of boiling water, ſeven pounds.

This ſpirit, when made in perfection, is very grateful and fragrant: It is frequently rubbed on the temples, &c. under the notion of refreſhing and comforting the nerves; and it probably operates as a powerful ſtimulus to their ſenſible extremeties: it is likewiſe taken internally, to the quantity of a teaſpoonful, as a warm cordial.

SPIRITUS MENTHÆ PIPERITIDIS.

Lond.

Spirit of peppermint.

Take of
- The herb pepper-mint, dried, one pound and an half;
- Proof-ſpirit of wine, one gallon;
- Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

AQUA FOLIORUM MENTHÆ PIPERITIDIS SPIRITUOSA.

Edin.

Spirituous peppermint-water.

From a pound and a half of theſe leaves, nine pounds of ſpirit are drawn

drawn off, as from the caraway-seeds.

This spirit receives a strong impregnation from the peppermint. It is employed in flatulent cholics and similar disorders; and in these it sometimes gives immediate relief: but where it is indicated, there are few cases in which the peppermint water is not preferable.

SPIRITUS MENTHÆ SATIVÆ.

Lond.

Spirit of spearmint.

Take of

Spearmint, dried, one pound and an half;

Proof-spirit of wine, one gallon;

Water, sufficient to prevent an empyreuma.

Draw off one gallon.

This spirit has no place in the Edinburgh pharmacopœia. It, however, turns out a very elegant one, and preferable, in weakness of the stomach, retching to vomit, and the like, to many more elaborate preparations. Where the disorder is not accompanied with heat or inflammation, half an ounce of this water may be given diluted with some agreeable aqueous liquor: but, as was already observed with regard to the preceding article, there are many cases in which the prudent practitioner will be disposed to give the preference to the simple distilled water.

SPIRITUS NUCIS MOSCHATÆ.

Lond.

Spirit of nutmeg.

Take of

Bruised nutmegs, two ounces;

Proof-spirit of wine, one gallon;

Water, sufficient to prevent an empyreuma.

Draw off one gallon,

AQUA NUCIS MOSCHATÆ SPIRITUOSA.

Edin.

Spirituous nutmeg-water.

By two ounces of the nutmeg well bruised, nine pounds of spirit are impregnated.

This is an agreeable spirituous liquor, highly impregnated with the nutmeg flavour. It was formerly celebrated in nephritic disorders, and when combined with a few hawthorn flowers, it had even the title of *aqua nephritica.* At present it is employed only as a cordial liquor, and is not even very frequently in use.

SPIRITUS PIMENTO.

Lond.

Spirit of pimento, or *All-spice.*

Take of

All-spice, bruised, two ounces;

Proof-spirit of wine, one gallon;

Water, sufficient to prevent an empyreuma.

Draw off one gallon.

AQUA PIPERIS JAMAICENSIS SPIRITUOSA.

Edin.

Spirituous Jamaica-pepper water.

By half a pound of pimento, nine pounds of spirit are to be impregnated.

This water is far more agreeable than a simple water drawn from the same spice; and had long a place among the cordials of the distiller before it was received into any public pharmacopœia: but although now adopted both by the London and Edinburgh colleges, it is not

very frequently ordered from the shops of the apothecary.

SPIRITUS PULEGII.

Lond.

Spirit of pennyroyal.

Take of
- The herb pennyroyal, dried, one pound and an half;
- Proof-spirit of wine, one gallon;
- Water, sufficient to prevent an empyreuma.

Draw off one gallon.

This spirit has no place in the Edinburgh pharmacopœia. It possesses, however, a considerable share of the flavour of the pennyroyal, and by some it is a good deal employed as a carminative and antihysteric.

SPIRITUS RAPHANI COMPOSITUS.

Lond.

Compound spirit of horse-radish.

Take of
- Fresh horse-radish root,
- Dried outer-rind of Seville oranges, each two pounds;
- Fresh herb of garden scurvygrass, four pounds;
- Bruised nutmegs, one ounce;
- Proof-spirit of wine, two gallons;
- Water, sufficient to prevent an empyreuma.

Draw off two gallons.

This spirit has long been considered as an elegant one, and is perhaps as well adapted for the purposes of an antiscorbutic as any thing that can be contrived in this form. It has been alledged, that the horse-radish and scurvygrass join very well together, giving a similar flavour, though not a little disagreeable; that the nutmeg suppresses this flavour very successfully, without superadding any of its own, and that to this, orange-peel adds a flavour very agreeable. Arum root had formerly a place in this water, but is here deservedly thrown out; for it gives nothing of its pungency over the helm, notwithstanding what is asserted by some pharmaceutical writers to the contrary. Mustard seed, though not hitherto employed in these kinds of compositions, would seem to be an excellent ingredient; it gives over the whole of its pungency, and is likewise less perishable than most of the other substances of this class: this seed wants no addition, excepting some aromatic material to furnish an agreeable flavour.

But although this process may furnish an agreeable compound spirit; yet it is much to be doubted, whether it possess those antiscorbutic powers for which it was once celebrated. And with this intention the Edinburgh college place so little confidence in it, that they have now rejected it from their pharmacopœia.

SPIRITUS ROSMARINI.

Lond.

Spirit of rosemary.

Take of
- Fresh tops of rosemary, one pound and an half;
- Proof-spirit of wine, one gallon.

Distil in a water-bath, five pints.

Edinb.

Take of
- Flowering tops of rosemary, fresh gathered, two pounds;
- Rectified spirit of wine, eight pounds.

Distil in the heat of boiling water till seven pounds come over.

A spirit similar to this is generally brought to us from abroad, under

under the name of Hungary water.

This ſpirit is very fragrant, ſo as to be in common uſe as a perfume: that brought from abroad is ſuperior in fragrance to ſuch as is generally made among us. In order to prepare it in perfection, the vinous ſpirit ſhould be extremely pure; the roſemary tops gathered when the flowers are full blown upon them, and committed immediately to diſtillation, particular care being taken not to bruiſe or preſs them. The beſt method of managing the diſtillation, is that formerly recommended for the diſtillation of the more volatile eſſential oils and ſimple waters, viz. firſt to place the ſpirit in the ſtill, and then let in, above the liquor, either an iron hoop, with a hair-cloth ſtretched over it, upon which the flowers are to be lightly ſpread, or rather a baſket, ſupported on three pins, reaching down to the bottom. A gentle heat being applied, juſt ſufficient to raiſe the ſpirit, its vapour, lightly percolating through the flowers, will imbibe their finer parts, without making that diſagreeable alteration, which liquors applied to ſuch tender ſubjects, in their groſſer form, generally do. Probably the ſuperiority of the French Hungary water, to that prepared among us, is owing to ſome ſkilful management of this kind, or to employing a perfectly pure ſpirit.

In the Wirtemberg pharmacopœia, ſome ſage and ginger are added, in the proportion of half a pound of the former, and two ounces of the latter, to four pounds of the roſemary.

But the peculiar agreeable flavour of this water in all probability depends on the roſemary alone.

AQUA CARMELITANA.

Dan.

Carmalite water, or compound balm-water.

Take of
- Freſh-gathered leaves of balm, a pound and a half;
- The recent yellow rind of lemons, four ounces;
- Nutmeg,
- Coriander, each two ounces;
- Cloves,
- Cinnamon, each one ounce.

The ingredients being ſliced and bruiſed, pour upon them
- Rectified ſpirit of wine, ſix pounds;
- Balm-water, three pounds.

Digeſt for three days, then draw off ſix pounds by diſtillation.

This ſpirit has been a good deal celebrated, particularly among the French, under the title of *Eau de Carmes*. Mr Baumé, in his Elemens de Pharmaciè, propoſes ſome improvements on the proceſs. After the ſpirit added to the ingredients has been drawn off in the heat of a water-bath, he orders the diſtilled liquor to be rectified by a ſecond diſtillation, drawing off ſomewhat leſs than nine-tenths of it. He recommends, that all the aromatic ſpirits ſhould be prepared in the ſame manner. When the common ſpirits of this kind are rubbed on the hands, &c. they leave, after the more volatile parts have exhaled, a diſagreeable empyreumatic ſmell; and when diluted with water, and taken medicinally, they leave in like manner a nauſeous flavour in the mouth. To remedy theſe imperfections, he made many experiments, which ſhowed, that in order to obtain theſe liquors of the deſirable qualities, the ſpirit muſt not only be perfectly pure at firſt,

but that the liquor ought alſo to be rectified after it has been diſtilled from the ſubjects. In this rectification, only the more volatile, ſubtile, aromtic parts of the ingredients ariſe: there remains behind a white liquor, acrid, bitter, loaded only with the groſſer oil, and deprived of all the ſpecific flavour of the ſubjects. Indeed the very imperfection complained of, naturally points out this ſecond diſtillation as the remedy; for it ſhows the ſpirit to contain a grateful and ungrateful matter; the firſt of which exhales, while the other is left behind. The author ſays, that when the *aqua meliſſæ* is prepared as above directed, it has ſomething in it more perfect than any of the odoriferous ſpirits, whoſe excellence is cried up, and which have the reputation of being the beſt.

Aromatic ſpirituous liquors have in general leſs ſmell, when newly diſtilled, than after they have been kept about ſix months. M. Baumé ſuſpects that the preparations of this kind which have been moſt in vogue, were ſuch as have been thus improved by keeping: and found that the good effects of age might be produced in a ſhort time by means of cold. He plunges quart bottles of the liquor into a mixture of pounded ice and ſea-ſalt: the ſpirit, after having ſuffered, for ſix or eight hours, the cold thence reſulting, proves as grateful as that which has been kept for ſeveral years. Simple waters alſo, after being frozen, prove far more agreeable than they were before, though they are always leſs ſo than thoſe which have been drawn with ſpirit, and expoſed to a like degree of cold. This melioration of diſtilled waters by froſt was taken notice of by Geoffroy.

SPIRITUS COCHLEARIÆ.

Suec.

Spirit of ſcurvygraſs.

Take of

Freſh ſcurvygraſs, bruiſed, ten pounds;

Rectified ſpirit of wine, eight pints.

With the heat of a water-bath, diſtil off four pints.

This ſpirit is very ſtrong of the ſcurvygraſs; and has been given, in thoſe caſes where the uſe of this herb is proper, from twenty to one hundred drops. The virtues of ſcurvygraſs reſide in a very ſubtile, volatile oil, which ariſes in diſtillation both with water and pure ſpirit; and if the liquors are expoſed to the air, ſoon exhales from both. The ſpirit, newly diſtilled, is extremely pungent; but if long kept, even in cloſe veſſels, it becomes remarkably leſs ſo: But it is not probable, that with ſuch a pungent vehicle we can uſe a ſufficient quantity of the herb to produce any permanent or conſiderable effect: it has been much recommended as a diuretic in dropſies.

The makers of this ſpirit have frequently added to the ſcurvygraſs a quantity of horſeradiſh root, and ſometimes ſubſtituted to it one drawn entirely from the horſeradiſh: the flavour of theſe two ſimples being ſo much alike, that their diſtilled ſpirits are ſcarce diſtinguiſhable from each other. Here it may be obſerved, that though *arum* and *dracunculus* are uſually ranked in the ſame claſs with the two foregoing vegetables, and looked upon as ſimilar to them; this proceſs diſcovers a remarkable difference: whilſt the former yield all their pungency in diſtillation both to water and ſpirit; the latter give over nothing to either,

either, and yet their virtues are destroyed in the operation.

SPIRITUS AURANTII.

Succ.

Orange-peel water.

Take of
Recent orange skins, one pound;
Proof-spirit, three pounds.
Draw off two pounds by the heat of a water bath.

This spirit, which is now rejected from our pharmacopœias, had formerly a place in them under the title of *aqua corticum aurantiorum spirituosa.* It is considerably stronger of the orange-peel than the simple water; and it is used as an useful cordial, stomachic, and carminative.

SPIRITUS AROMATICUS.

Succ.

Aromatic spirit.

Take of
The tops of rosemary, a pound and an half;
Tops of milfoil,
Thyme, each half a pound;
Proof-spirit, sixteen pounds; macerate for two days, and draw off by distillation, eight pounds.
If before distillation eight pounds of vinegar be added, it forms the spiritus aromaticus acetatus.

These preparations do not differ materially from the spirit of rosemary or Hungary water; for on the essential oil of the rosemary their medical properties may be considered as chiefly depending. They are often employed, particularly for external purposes, and for impregnating the air with their vapours, to destroy the influence of febrile contagions.

SPIRITUS ANTICTERICUS.

Gen.

Anticteric spirit.

Take of
Spirit of turpentine, an ounce and an half;
Rectified spirit of wine, half a pound.
Distil with a gentle heat. Let the oil swimming above in the receiver be separated from the saturated spirit, which is to be preserved for use.

It has been imagined, that this combination of oil of turpentine with ardent spirit will furnish an effectual solvent for biliary calculi. Hence the origin of the name here given it; but although it may have such an effect when copiously applied to the calculi in a glass vessel; yet this is not to be expected when it is taken into the stomach, and can only reach them in the course of circulation.

CHAP. XIX.

DECOCTA ET INFUSA.

DECOCTIONS AND INFUSIONS.

WATER, the direct menſtruum of gums and ſalts, extracts readily the gummy and ſaline parts of vegetables. Its action, however, is not limited to theſe; the reſinous and oily principles being, in moſt vegetables, ſo intimately blended with the gummy and ſaline, as to be in part taken up along with them: ſome of the reſinous cathartics, and moſt of the aromatic herbs, as well as bitters and aſtringents, yield to water the greateſt part of their ſmell, taſte, and medicinal virtue. Even of the pure eſſential oils, and odorous reſins of vegetables, ſeparated from the other principles, water imbibes a part of the flavour; and by the artificial admixture of gummy or ſaline matter, the whole ſubſtance of the oil or reſin is made diſſoluble in water.

Of pure ſalts, water diſſolves only certain determinate quantities: by applying heat, it is generally enabled to take up more than it can do in the cold, and this in proportion to the degree of heat; but as the liquor cools, this additional quantity ſeparates, and the water retains no more than it would have diſſolved without heat. With gummy ſubſtances, on the other hand, it unites unlimitedly, diſſolving more and more of them till it loſes its fluidity. Heat expedites the action of the water, but cannot enable it to take up more than it would do by allowing it longer time in the cold. The active parts extracted from moſt vegetables by water, and oils and reſins made ſoluble in water by the artificial admixture of gum, partake of this property of pure gums, being diſſoluble without ſaturation.

It has been imagined, that vegetables in a freſh ſtate, while their oily, reſinous, and other active parts, are already blended with a watery fluid, would yield their virtues to water more freely and more plentifully, than when their native moiſture has been diſſipated by drying. Experience, however, ſhows, that dry vegetables in general give out more than freſh ones, water ſeeming to have little action upon them in their recent ſtate. If, of two equal quantities of mint, one be infuſed freſh in water, and the other dried, and then infuſed in the like quantity of water for the ſame length of time, the infuſion of the dry herb will be remarkably the ſtrongeſt;

ſtrongeſt: and the caſe appears to be the ſame in all the vegetables that have been tried.

In all the preparations deſcribed in this chapter, it is to be underſtood that the ſubjects muſt be moderately and newly dried, unleſs when they are expreſsly ordered to be taken freſh; in which caſe it is to be judged that their virtues are deſtroyed or impaired by drying.

The native colours of many vegetables are communicated to water along with their medicinal matter; many impart a colour different from their own; and others, though of a beautiful and deep colour themſelves, give ſcarcely any to the menſtruum. Of the firſt kind are the yellow and red flowers; of the ſecond, the leaves of moſt plants; of the third, ſome of the blu flowers, as thoſe of cyanus and larkſpur. Acid liquors change the infuſions of moſt flowers, the yellow ones excepted, to a red; and alkalies, both fixed and volatile, to a green.

From animal ſubſtances, water extracts the gelatinous and nutritious parts; whence glues, jellies, broths, &c; and along with theſe, it takes up principles of more activity, as the acrid matter of cantharides. It diſſolves alſo ſome portion of calcined calcareous earths, both of the animal and of the mineral kingdom, but has no action on any other kind of earthy matter.

The effect of boiling differs from that of infuſion in ſome material particulars. One of the moſt obvious differences is, that as the eſſential oils of vegetables, in which their ſpecific odours reſide, are volatile in the heat of boiling water, they exhale in the boiling along with the watery ſteam, and thus are loſt to the remaining decoction; whereas both in cold, and ſometimes in hot infuſions, they are preſerved; although in the latter they are by no means perfectly ſo. Odorous ſubſtances, and thoſe in general whoſe virtues depend on their volatile parts, are therefore unfit for this treatment. The ſoluble parts of theſe may, nevertheleſs, be united in this form with thoſe bodies of a more fixt nature, by boiling the latter till their virtues be ſufficiently extracted, and then infuſing the former in this decoction.

The extraction of the virtue of the ſubject is uſually promoted or accelerated by a boiling heat; but this rule is leſs general than it is commonly ſuppoſed to be. We have already obſerved, that Peruvian bark gives out its virtue more perfectly by cold infuſion than by coction. In ſome caſes, boiling occaſions a manifeſt diſunion of the principles of the ſubject: thus, when almonds are triturated with cold water, their oil, blended with the mucilaginous or other ſoluble matter of the almond, unites with the water into a milky liquor called an emulſion: but on boiling them in water, the oil ſeparates and riſes to the ſurface; and if the moſt perfect emulſion be made to boil, a like ſeparation happens.

This alſo appears to take place, though in a leſs evident manner, in boiling ſundry other vegetables; thus tobacco, aſarum, and ipecacuanha, loſe their active powers by boiling: nor does it appear that this change is effected merely by the diſcharge of volatile parts. From ſome late experiments, it has been found, that the diſtilled water of ipecacuanha was infinitely leſs emetic than the infuſion from which it was diſtilled, and that the boiling liquor gradually aſſumes a black

colour, indicating some kind of decomposition of parts: the same circumstances probably take place in boiling tobacco, asarum, and perhaps all vegetables whatever, tho' from their not producing such sensible operations on the living body, they cannot be so clearly discovered as in ipecacuanha, tobacco, or asarum. The experiments we allude to, were made by Dr Irving, when a student in the college of Edinburgh; and they gained him the prize given by the Harveian Society of that place, for the best experimental inquiry concerning ipecacuanha.

It is for the above mentioned reasons that we think many of the infusions should be made with cold water: it is, however, to be acknowledged, that this is not always absolutely necessary, and in extemporaneous practice it may be often very inconvenient; it is, however, proper to point out the advantages to be expected from this more tedious, but much more complete and elegant, method.

Vinegar extracts the virtues of several medicinal substances in tolerable perfection: but at the same time its acidity makes a remarkable alteration in them, or superadds a virtue of a different kind; and hence it is more rarely employ- with this intention than purely aqueous or spirituous menstrua. Some drugs, however, vinegar, for particular purposes, excellently assists, or coincides with, as squills, garlic, ammoniacum, and others: and in many cases where this acid is itself principally depended on, it may be advantageously impregnated with the flavour of certain vegetables; most of the odoriferous flowers impart to it their fragrance, together with a fine purplish or red colour; violets, for instance, if fresh parcels of them are infused in vinegar in the cold for a little time, communicated to the liquor a pleasant flavour, and deep purplish red colour. Vinegar, like other acids, added to watery infusions or decoctions, generally precipitates a part of what the water had dissolved.

DECOCTUM ALTHÆÆ.

Edinb.

Decoction of marshmallows.

Take of

Dried marshmallow roots, four ounces;

Raisins of the sun, stoned, two ounces;

Water, seven pounds.

Boil to five pounds; place apart the strained liquor till the feces have subsided, then pour out the clear liquor.

The Edinburgh college have substituted this to the more complicated formula of the *Decoctum ad Nephriticos* of their former pharmacopœia, and it fully answers the intentions of that preparation: it is intended chiefly as an emollient, to be liberally drank of in nephritic paroxysms; in which cases, by softening and relaxing the parts, it frequently relieves the pain, and procures an easy passage for the sabulous matter. This medicine is now made more simple than before, without any diminution of its virtue, by the rejection of wild-carrot seed, restharrow root, figs, linseed, and liquorice. The carrot seeds were indeed unfit for this form, as they give out little of their virtue to watery liquors.

DECOCTUM CORNU CERVI.

Lond.

Decoction of hartshorn.

Take

Take of
Burnt and prepared hartshorn, two ounces;
Gum arabic, six drams;
Distilled water, three pints.
Boil, constantly stirring, to two pints, and strain.

This decoction is used as common drink in acute diseases attended with a loosenes, and where acrimonious humours abound in the primæ viæ. The gum is added, in order to render the liquor lightly glutinous, and thus enable it to sustain more of the calx; which is the ingredient on which the colour, but probably not the virtue, of the medicine depends upon. Calcined hartshorn has no quality from which it seems capable either of constringing and strengthening the vessels, giving a greater degree of consistency to thin fluids, or obtunding acrimonious humours. It blunts and absorbs acid juices; but acrimony and acidity are very different; there are few (perhaps none of the acute) disorders of adults attended with the latter; and few of infants are unaccompanied therewith. Some have proposed starch as an ingredient in these kinds of decoctions; a small quantity of this soft gelatinous, farinaceous substance would seem to be greatly preferable to the earthy calx. It may be observed, that the water is not enabled by the boiling to dissolve any part of the calx; and that in the decoction, the earth is only diffused in substance through the water, as it would be by agitation.

For these reasons, this formula is now rejected by the Edinburgh college, notwithstanding the reputation in which it was held by Dr Sydenham, and other names of the first eminence. But as an absorbent of a similar nature, the Edinburgh college have introduced the following formula.

POTIO CRETACEA.

Chalk julep.
Edin.

Take of
Prepared chalk, one ounce;
Purest refined sugar, half an ounce;
Mucilage of gum arabic, two ounces;
Rub them together; and add by degrees,
Water, two pounds and a half;
Spirituous cinnamon water, two ounces.
Mix them.

In the former edition of the Edinburgh pharmacopœia, a preparation of this kind had the title of *Decoctum cretaceum*, and the chalk was directed to be boiled with the water and gum. In the present formula, the chalk is much more completely suspended by the mucilage and sugar, which last gives also to the mixture an agreeable taste; it is proper to employ the finest sugar, as the redundant acid in the coarser kinds might form with the chalk a kind of phosphoric salt. It would perhaps have been more proper to have added an aromatic, by suspending the entire powder of cinnamon, or its oil, by means of the mucilage and sugar: the method here directed is, however, less exceptionable in this than in many other preparations, as the precipitated matter of the spirituous water will probably be invisicated in the saccharine and mucilaginous matter. This is a very elegant form of exhibiting chalk, and is an useful remedy in diseases arising from, or accompanied with, acidity in the primæ viæ. It has been most frequently employed in fluxes proceeding from that cause. At the same time that the

the mucilage ſerves to keep the chalk uniformly diffuſed, it alſo conſiderably improves its virtues by ſheathing the internal ſurface of the inteſtines ſo often abraded in theſe affections. It is indeed probable, that chalk, as being ſomewhat aſtringent, is in ſome of theſe complaints preferable to magneſia; both, however, are improper in dyſentery, or other fluxes attended with putreſcent matter in the primæ viæ, or a general tendency to a putrefaction of the fluids.

DECOCTUM CORTICIS PERUVIANI.

Lond.

Decoction of Peruvian bark.

Take of
- Peruvian bark, powdered, one ounce;
- Diſtilled water, one pint and three ounces.

Boil, for ten minutes, in a covered veſſel, and ſtrain the liquor whilſt hot.

ALTHOUGH a cold watery infuſion of bark is in general preferable to any decoction, yet this form has at leaſt the advantage of being more quickly prepared. And the decoction here directed, which is boiled only for a ſhort time, and ſtrained while hot, is preferable to any other.

This decoction ſhould be paſſed only through a coarſe ſtrainer, and drank whilſt turbid: if ſuffered to ſtand till clear, the more efficacious parts of the bark will ſubſide. We have formerly obſerved, that the virtues of this drug conſiſt chiefly in its reſinous ſubſtance, which, tho' it may be totally melted out by the heat of boiling water, remain only partially ſuſpended in that menſtruum.

DECOCTUM PRO ENEMATE.

Lond.

Decoction for a clyſter.

Take of
- The dried leaves of mallow, one ounce;
- Dried chamomile-flowers, half an ounce;
- Water, one pint.

Boil, and ſtrain.

THE title of this decoction ſufficiently expreſſes its uſe, as the baſis of glyſters. The ingredients ſhould be very lightly boiled, or at leaſt the camomile flowers ſhould not be put in till towards the end, a part of the virtue of theſe being ſoon loſt by boiling.

DECOCTUM PRO FOMENTO.

Lond.

Decoction for fomentation.

Take of.
- The dried leaves of ſouthernwood,
- The dried tops of ſea-wormwood,
- Dried chamomile-flowers, each one ounce;
- Dried bay-leaves, half an ounce;
- Diſtilled water, ſix pints.

Boil them a little, and ſtrain.

DECOCTUM COMMUNE.

Edinb.

Common decoction.

Take of
- Camomile-flowers, one ounce;
- Carvy ſeeds, half an ounce;
- Water, five pounds.

Boil a quarter of an hour, and ſtrain.

THIS decoction is intended to anſwer the purpoſes of both the foregoing. It is leſs loaded with the ingredients than either, but not perhaps for that reaſon the leſs uſeful.

It

It is indeed to be acknowledged, that these impregnations are for the most part unnecessary for the purpose of glysters; and in ordinary cases the weight of the water usually solicits a discharge before these medicines can produce any effect.

As fomentations, their virtues in our opinion are totally to be ascribed to the influence of the warm water. And when the herbs themselves are applied, they act only as retaining heat and moisture for a longer time.

DECOCTUM HELLEBORI.

Lond.

Decoction of hellebore.

Take of
- The root of white hellebore, powdered, one ounce;
- Distilled water, two pints;
- Rectified spirit of wine, two ounces.

Boil the water with the root to one pint; and, the liquor being cold and strained, add to it the spirit.

WHITE hellebore, as we formerly observed, is now very rarely employed internally; and the present formula is entirely intended for external use. Recourse is sometimes had to it with advantage in cutaneous eruptions, particularly in tinca capitis. But where the incrustations are entirely removed, leaving a very tender skin, it is necessary that the decoction should be diluted previous to its employment.

DECOCTUM HORDEI.

Lond.

Decoction of barley.

Take of
- Pearl-barley, two ounces;
- Distilled water, four pints.

The barley being first washed with cold water from the adhering impurities, pour upon it about half a pint of water, and boil the barley a little time. This water being thrown away, add the distilled water, boiling, to the barley; boil it to two pints, and strain.

DECOCTUM HORDEI COMPOSITUM.

Lond.

Compound decoction of barley.

Take of
- The decoction of barley, two pints;
- Raisins, stoned,
- Figs, sliced, each two ounces;
- Liquorice-root, sliced and bruised, half an ounce;
- Distilled water, one pint.

Boil to two pints, and strain.

DECOCTUM HORDEI.

Edinb.

Barley-water.

Take of
- Pearl-barley, two ounces;
- Water, five pints.

First wash the barley from the mealy matter that adheres to it with some cold water; then boil it a little with about half a pint of fresh water, which will acquire a considerable tinge from it. Throw away this tinged water; put the barley into the water prescribed, made first to boil; and continue the boiling till half the water be wasted.

THESE liquors are to be drank freely, as a diluter, in fevers and other disorders: hence it is of consequence that they should be prepared so as to be as elegant and agreeable as possible; for this reason they are inserted in the pharmacopœia, and the several circumstances which contribute to their elegance set down; if any one of them be omitted, the beverage will be less grateful. However trivial medicines of this

this clafs may appear to be, they are of greater importance in the cure of acute difeafes than many more elaborate preparations.

Barley-water, however, is much more frequently prepared by nurfes than apothecaries, particularly in its fimple ftate. The compound decoction contains a large proportion of faccharine and mucilaginous matter, and may be employed for the fame purpofes as the decoctum altheæ of the Edinburgh pharmacopœia.

DECOCTUM LIGNORUM.

Edinb.

Decoction of the woods.

Take of

Guaiacum faw-duft, three ounces;

Raifins of the fun, ftoned, two ounces;

Saffafras wood, fhaved,

Liquorice, fliced, each one ounce;

Water, ten pounds.

Boil the guaiacum and raifins with the water, over a gentle fire, to the confumption of one half: adding, towards the end, the faffafras and liquorice. Strain out the liquor; and having fuffered it to reft for fome time, pour off the clear from the feces without expreffion.

This decoction is very well contrived; and if its ufe be duly continued, it will do great fervice in fome cutaneous difeafes, in what has been called foulnefs of the blood and juices, and in fome diforders of the breaft; particularly in phlegmatic habits. It may be taken by itfelf to the quantity of a quarter of a pint two or three times a day, or ufed as an affiftant in a courfe of mercurial or antimonial alteratives; the patient in either cafe keeping warm, in order to promote the operation of the medicine. The faw-duft expofes a larger furface to the action of the water than the fhavings, directed in the former edition of the pharmacopœia.

DECOCTUM SARSAPARILLÆ.

Lond.

Decoction of farfaparilla.

Take of

The root of farfaparilla, fliced, fix ounces;

Diftilled water, eight pints.

Macerate for two hours, with an heat of about 195°; then take out the root, and bruife it; return the bruifed root to the liquor, and again macerate it for two hours. Then, the liquor being boiled to the meafure of four pints, prefs it out, and ftrain.

The farfaparilla decoction is an article in very common ufe, particularly in venereal affections. And there can be little doubt, that by this procefs the medical powers of the farfaparilla are fully extracted. But it has of late been much queftioned, whether this article be in any degree intitled to the high character which was once given of it. Some, as we have already obferved, are even difpofed to deny its poffeffing any medical property whatever: But the general opinion is, that it has fomewhat of a diaphoretic effect; and this effect is more readily obtained when it is exhibited under the form of decoction than under any other.

DECOCTUM SARSAPARILLÆ COMPOSITUM.

Lond.

Compound decoction of farfaparilla.

Take of

The root of farfaparilla, fliced and bruifed, fix ounces;

Bark of the root of faffafras,

Shavings of guaiacum-wood,

Li-

Liquorice-root, bruised, of each one ounce;
Bark of the root of mezereon, three drams;
Distilled water, ten pints.
Macerate, with a gentle heat, for six hours; then boil it down to five pints, adding towards the end of the boiling the bark of the root of mezereon, and strain the liquor.

This compound decoction is an elegant mode of preparing an article once highly celebrated under the title of the *Lisbon diet drink*. That formula, for a long time after its first introduction into Britain, was kept a secret; but an account of the method of preparation was at length published in the Physical and Literary Essays of Edinburgh, by Dr Donald Monro. And of the formula there given, which is in many respects an unchemical one, the present may justly be considered as an improvement. Even in its original form, but still more in the present state, there can be no doubt, that it furnishes us with a very useful medicine, particularly in those obstinate ulcers originating from venereal infection, which resist the power of mercury. And it is highly probable, that its good effects, principally depend on the impregnation it receives from the mezereon. Perhaps, however, even thus improved, it is more complicated and expensive than is necessary: At least we are inclined to think, that every advantage derived from it, may with equal ease and certainty be obtained, from impregnating with the mezereon in the manner here directed, a simple decoction of the guaiacum, bardana, or althea, without having recourse to several articles, or employing one so expensive as the sarsaparilla.

DECOCTUM SENEKÆ.

Edin.

Decoction of seneka.

Take of
Seneka, or rattlesnake-root, one ounce;
Water, two pounds.
Boil to sixteen ounces, and strain.

The virtues of this decoction will be easily understood from those of the root from which it is prepared. The dose, in hydropic cases, and rheumatic, or arthritic complaints, is two ounces, to be repeated three or four times a-day, according to its effect.

DECOCTUM ULMI.

Lond.

Decoction of elm.

Take of
The fresh inner-bark of elm, bruised, four ounces;
Distilled water, four pints.
Boil to two pints, and strain.

It has been chiefly, if not entirely, under this form of decoction, that the elm-bark has been employed for combating those cutaneous eruptions against which it has of late been so highly celebrated. Any experience which we have had of it, however, in actual practice, by no means confirms the very favourable account which some have given of its use.

MUCILAGO AMYLI.

Lond.

Mucilage of starch.

Take of
Starch, three drams;
Distilled water, one pint.
Rub the starch, by degrees adding the distilled water; then boil it a little time.

The mucilage thus formed of starch is very useful for answering these

thefe purpofes where a glutinous fubftance is required, and in particular it is often fuccefsfully employed under the form of glyfter.

MUCILAGO ARABICI GUMMI.

Lond.

Mucilage of gum arabic

Take of
- Gum arabic, powdered, four ounces;
- Boiling diftilled water, eight ounces.

Rub the gum with the water until it be diffolved.

MUCILAGO GUMMI ARABICI.

Edinb.

Mucilage of gum arabic.

Take of
- Gum arabic, beat into powder, and warm water, each equal weights.

Digeft, and frequently ftir them till the gum be diffolved, then prefs the folution through linen.

It is very neceffary to pafs the mucilage thro' linen in order to free it from pieces of wood and other impurities, which always adhere to the gum; the linen may be placed in a funnel.

Mucilage of gum arabic is very ufeful in many operations in pharmacy: it is alfo much ufed for properties peculiar to thofe fubftances of its own clafs, and of all the gums it feems to be the pureft.

MUCILAGO GUMMI TRAGACANTHÆ.

Edinb.

Mucilage of gum tragacanth.

Take of
- Gum tragacanth, powdered one ounce;
- Hot water, eight ounces.

Macerate twenty-four hours; then mix them, by rubbing briskly, that the gum may be diffolved; and prefs the mucilage through linen cloth.

This gum is more difficultly foluble in water than gum arabic, and feems to be confiderably more adhefive; it is therefore fitter for forming troches, and fuch like purpofes. It has been thought to be more peculiarly what has been called a pectoral, than the other gums: but this does not feem to be certainly founded. This mucilage is perhaps preferable to the foregoing in thofe operations in pharmacy where much tenacity is required; as in the fufpenfion of mercury, or other ponderous bodies.

MUCILAGO SEMINIS CYDONII MALI.

Lond.

Mucilage of quince-feed.

Take of
- Seeds of the quince, one dram;
- Diftilled water, eight ounces, by meafure.

Boil with a flow fire until the water thickens; then pafs it thro' linen.

This is a pleafant foft mucilage, of a fomewhat fweetifh tafte, and a light agreeable fmell: in thefe refpects, and in its eafy folubility in water, it differs from the mucilage of gum tragacanth, to which fome have fuppofed it fimilar: it has another difference, to its difadvantage, being apt to grow mouldy in keeping.

INFUSUM GENTIANÆ COMPOSITUM.

Lond.

Compound infufion of gentian.

Take of
- The root of gentian, one dram;
- Frefh outer-rind of lemons, half an ounce;
- Dried outer-rind of Seville oranges, one dram and an half;

Boil

Boiling water, twelve ounces, by measure.

Macerate for an hour, and strain.

INFUSUM AMARUM.

Edinb.

Bitter infusion.

Take of

Gentian root, half an ounce;

Dried peel of Seville oranges, one dram;

Coriander seeds, half a dram;

Proof-spirit, four ounces;

Water, one pound.

First pour on the spirit, and three hours thereafter add the water; then macerate without heat for a night, and strain.

These formulæ do not materially differ. That of the London college is the most epeditious mode of preparation: But that of the Edinburgh college possess other advantages, which are in our opinion more than sufficient to outweigh that circumstance.

In the former edition of the Edinburgh Pharmacopœia, the water was directed to be boiling: this was at least unnecessary, and was probably liable to the objections observed against decoctions. The proof spirit is also an useful addition to the infusum amarum, as it now stands in the Edinburgh pharmacopœia: besides that it assists in extracting the resinous parts, and preserving the infusion from fermentation, it communicates an agreeable pungency to the liquor: to answer in some measure these intentions, it was formerly directed to add to the filtrated liquor a quantity of aqua aromatica. This was certainly a piece of very bad pharmacy; for, besides that the spirit in this preparation, when diluted with the water of the infusion, was now no longer able to retain the suspended matter, it would also dispose the infusion to the part with its proper extractive matter; and in this way the resinous matter of the aqua aromatica, and the gummy parts of the infusum amarum, would both in some degree separate to the bottom of the vessel; by the *formula* now laid down, the infusion contains the different principles of the ingredients in a manner more nearly approaching to their natural and entire state.

INFUSUM SENNÆ SIMPLEX.

Lond.

Simple infusion of senna.

Take of

Senna, an ounce and a half;

Ginger, powdered, one dram;

Boiling distilled water, one pint.

Macerate them for one hour, in a covered vessel; and, the liquor, being cold, strain it.

This, although a simple, is a very elegant infusion of senna, the ginger acting as an useful corrigens. But if the senna were employed to the quantity of a dram and a half or two drams only, with the same menstruum in place of the quantity here ordered, it would be a no less useful medicine, and might be employed for one dose, as it is of advantage that it should be used fresh as here prepared. Of the present infusion, an ounce or two is a sufficient dose.

INFUSUM SENNÆ TARTARISATUM.

Lond.

Tartarised infusion of senna.

Take of

Senna, one ounce and a half;

Coriander-seeds, bruised, half an ounce;

Crystals of tartar, two drams;

Distilled water, one pint.

Dissolve the crystals of tartar by boiling in the water; then pour the water, as yet boiling, on the senna and seeds. Macerate for an hour

hour in a covered veſſel, and ſtrain when cold.

In the laſt edition of the London pharmacopœia this had the name of *infuſum ſennæ commune*.

Formerly an alkaline ſalt was uſed in the infuſion of ſenna, inſtead of the acid one here directed. The firſt was ſuppoſed to promote the operation of the medicine, by ſuperadding a degree of purgative virtue of its own, and by enabling the water to extract ſomewhat more from the capital ingredient than it would be capable of doing by itſelf; whilſt acids were alleged to have rather a contrary effect. Experience, however, has ſufficiently ſhown, that alkaline ſalts increaſe the offenſiveneſs of the ſenna, whilſt cryſtals of tartar conſiderably improve the colour of the infuſion, and likewiſe render the taſte to ſome perſons leſs diſagreeable. Soluble tartar ſhould ſeem a good ingredient in theſe kinds of compoſitions; as it not only improves the taſte, but promotes the purgative virtue of the medicine; this addition alſo renders the infuſion leſs apt to gripe, or occaſion flatulencies.

INFUSUM TAMARINDOCUM cum SENNA.

Edinb.

Infuſion of tamarinds with ſenna.

Take of

Tamarinds, ſix drams;
Cryſtals of tartar,
Senna, each one dram;
Coriander ſeeds, half a dram;
Red candied ſugar, half an ounce;
Boiling water, eight ounces.

Macerate in a cloſe earthen veſſel, which has not been vitrified with lead; ſtir the liquor now and then, and after it has ſtood four hours ſtrain it. It may alſo be made with double, triple, &c. the quantity of ſenna.

Both this and the former infuſions might be made with cold water. By this means the aromatic quality of the coriander ſeeds would probably be extracted in a more perfect ſtate; but the cryſtals of tartar are ſo difficultly ſoluble in cold water, that for extemporaneous uſe it is in ſome meaſure neceſſary to prepare them in the manner here directed: it is not indeed probable, that when ſuch ſoluble matters as acids and ſugar are preſented to water, the water ſhall be able to extract ſuch a quantity of the ſiner volatile part of aromatics, as to afford any conſiderable flavour to the liquor: where an aromatic is required, we would therefore propoſe, that ſome agreeable aromatic water ſhould be mixed with the liquor immediately before ſwallowing it; or that a quantity of an aromatic oil ſhould be incorporated with the cold infuſion by means of gum, or a part of the ſugar which we might reſerve for that purpoſe. It is a very neceſſary caution not to make this infuſion in veſſels glazed with lead, otherwiſe the acid might corrode the lead, and communicate its poiſonous effects to the infuſion.

Both theſe infuſions are mild and uſeful purges, the latter in particular is excellently ſuited for delicate ſtomachs, at the ſame time that it is very much calculated for febrile and other acute diſeaſes. It is obſervable, that ſugar added to neutral ſalts, rather increaſes than diminiſhes their nauſeoufneſs; but when uſed along with an acid, ſuch as tamarinds, or a ſalt wherein the acid predominates, as in cryſtals of tartar, it is found very much to improve their taſte: the acid in this infuſion, or rather the combination of acid and ſweet, are found to cover the taſte of the ſenna very effectually; the aromatic ſerves alſo the ſame purpoſe, but would perhaps

haps be better applied in the way above propoſed.

INFUSUM ROSÆ.

Lond.

Infuſion of the roſe.

Take of
- Red roſe-buds, the heels being cut off, half an ounce;
- Vitriolic acid, diluted, three drams;
- Boiling diſtilled water, two pints and a half;
- Double-refined ſugar, one ounce and a half.

To the water, firſt poured on the petals in a glaſs veſſel, add the diluted vitriolic acid, and macerate for half an hour. Strain the liquor when cold, and add the ſugar.

INFUSUM vulgo TINCTURA ROSARUM.

Edinb.

Infuſion commonly called *tincture of roſes.*

Take of
- Red roſes, dried, one ounce;
- Boiling water, five pounds;
- Vitriolic acid, one dram;
- White ſugar, two ounces.

Macerate the roſes with the boiling water in an unglazed veſſel four hours; then having poured on the acid, ſtrain the liquor, and add the ſugar.

Some have directed the vitriolic acid to be dropped upon the roſes before the water is put to them; but this method is certainly faulty: for ſuch of the roſes as this cauſtic liquor falls upon undiluted, will be burnt up by it, and have their texture deſtroyed. Others have made an infuſion of the roſes in water firſt, and then added the acid, from an apprehenſion, that if this acid be added to the water, it would weaken its power as a menſtruum; but whatever the acid ſpirit will hinder the water from extracting, it muſt precipitate if added afterwards; though, in this preparation, the vitriolic acid bears ſo ſmall a proportion to the water, that its effects in this reſpect will be very little; and it appears to be of little conſequence which of the two ways be followed, only that by the above formula the veſſels are expoſed a ſhorter time to the action of the acid. The infuſion ſhould be made in a glaſs or ſtone-ware veſſel, rather than a glazed earthen one; for the acid will be apt to corrode the glazing of the latter.

This infuſion is of an elegant red colour, and makes a very grateful addition to juleps in hæmorrhagies, and in all caſes which require mild coolers and ſubaſtringents: it is ſometimes taken with boluſes or electaries of the bark, and likewiſe makes a good gargle; but although in our pharmacopœias it has its name from the roſes, yet its virtues are to be aſcribed chiefly, or perhaps ſolely, to the vitriolic acid.

INFUSUM RHEI.

Edinb.

Infuſion of rhubarb.

Take of
- Rhubarb, half an ounce;
- Boiling water, eight ounces;
- Spirituous cinnamon water, one ounce.

Macerate the rhubarb in a glaſs veſſel with the boiling water for a night; then having added the cinnamon water, ſtrain the liquor.

In this infuſion cold water might perhaps be employed with advantage; we alſo object to the ſpirituous cinnamon water on the ſame grounds as we did before to the aqua aromatica in the infuſum amarum of the former edition of the

Edinburgh pharmacopœia: this, however, appears to be one of the best preparations of rhubarb, when designed as a purgative; water extracting its virtue more effectually than either vinous or spirituous menstrua: in this respect rhubarb differs from most of the other vegetable cathartics; and we think the London college might have given it a place in their Pharmacopœia as well as the vinum or tinctura rhabarbari.

AQUA CALCIS.

Lond.

Lime-water.

Take of
- Quicklime, half a pound;
- Boiling distilled water, twelve pints.

Mix, and set it aside in a covered vessel for one hour; then pour off the liquor, which keep in a close vessel.

Edinb.

Take half a pound of fresh-burnt quicklime, put it into an earthen vessel, and gradually sprinkle upon it four ounces of water, keeping the vessel shut whilst the lime grows hot and falls into powder. Then pour upon it twelve pounds of water, and mix the lime thoroughly with the water by stirring. After the lime has subsided renew the stirring; and let this be done about ten times, always keeping the vessel shut (during the ebullition), that the access of the air may be the more effectually prevented. Lastly, let the water be filtered thro' paper placed in a funnel close shut at its top; and it must be kept in very close vessels.

The reason of adding the water by degrees to the lime is, that when poured on at once, it reduces the external part to a kind of muddy substance, or soft paste, which in some measure defends the internal part from being acted upon by the water. It does not appear that the different proportions of water in the two above prescriptions occasion any sensible difference in the strength of the product; the quicklime is far from yielding all its soluble parts to either proportion; the remainder giving a strong impregnation to many fresh quantities of water, though not so strong as to the first. The caution of keeping the water in close-stopt vessels ought to be strictly attended to; for in open ones the calcareous matter dissolved in the liquor soon begins to separate, and forms a white crust upon the surface. This crust is not of a saline nature, as some have imagined; but an insipid earth, no longer miscible with watery liquors. The theory of the production of this earth will be easily understood from what we have said on the article Fixed Air. The separation first takes place at the surface, as being the part immediately applied to the common air: as long as the crust remains entire, the closeness of its texture so excludes the air, that the rest of the matter still remains impregnated with lime; but when this pellicle is broke by any means, it soon sinks to the bottom, and exposes a new surface for the separation of the lime. In this way a succession of crusts and precipitations are formed, till the whole of the once caustic and soluble quicklime is now found at the bottom of the vessel in the state of a mild insoluble earth, leaving the water perfectly insipid.

The formation of these crusts, and their successive precipitations, are owing to the absorption of fixed air or aërial acid from the atmosphere: and the mild insoluble state

ſtate of theſe precipitations is alſo owing to the ſame cauſe.

The diſtilled water recommended by the London college is certainly preferable to common fountain water; the purity of which can rarely be depended upon.

Lime-water has been thought of great ſervice in ſcrophulous complaints; but perhaps on no very good foundation. It has alſo been uſed both internally and externally for various affections of the ſkin. It ſeems to be very conſiderably aſtringent, and has been uſeful in ſome kinds of alvine fluxes, in diabetes, leucorrhœa, and in ſundry other diſorders proceeding from a laxity or debility of the ſolids.

Its more common uſe is in affections of the ſtomach accompanied with acidity and flatulence. For which laſt complaint, the mild, or aërated earths, are leſs proper on account of the ſeparation of air on their meeting with an acid in the ſtomach. Lime-water is alſo capable of diſſolving mucus; and may therefore be uſed where a redundance of the inteſtinal mucus affords a nidus for worms, or gives riſe to other complaints. It has alſo been found, that lime-water injected into the anus immediately kills aſcarides. The lithontriptic powers of lime-water ſeem at preſent to be much doubted. Lime-water is given in doſes proportioned to the nature of the complaints; in ſome caſes, as in diabetes, it may be given in divided portions to the extent of two quarts a-day. It is uſed externally for waſhing what are called *foul* or *ill-conditioned ulcers*: it is alſo injected into the vagina and other parts affected with preternatural diſcharges from laxity.

The uſe of lime-water in ſcurvy is very doubtful.

ACETUM SCILLÆ.

Lond.

Vinegar of ſquill.

Take of

Squills, freſh dried, one pound;
Vinegar, ſix pints;
Proof-ſpirit, half a pint.

Macerate the ſquills in the vinegar, with a gentle heat, in a glaſs veſſel, for four-and-twenty hours; then preſs out the liquor, and ſet it by that the feces may ſubſide: laſtly, pour off the liquor, and add to it the ſpirit.

ACETUM SCILLITICUM.

Edinb.

Squill vinegar.

Take of

Dried root of ſquills, two ounces;
Diſtilled vinegar, two pounds and a half;
Rectified ſpirit of wine, three ounces.

Macerate the ſquills with the vinegar eight days; then preſs out the vinegar, to which add the ſpirit; and when the feces have ſubſided, pour out the clear liquor.

Vinegar of ſquills is a medicine of great antiquity; we find in a treatiſe attributed to Galen, an account of its preparation, and of many particular virtues then aſcribed to it. It is a very powerful ſtimulant, aperient, and what is called an attenuant of tenacious juices: and hence is frequently uſed, with great ſucceſs, in diſorders of the breaſt occaſioned by a load of thick viſcid phlegm, and for promoting urine in hydropic caſes. The doſe of this medicine is from a dram to half an ounce: where crudities abound in the firſt paſſages, it may be given at firſt in a larger doſe, to evacuate them by vomiting. It is moſt conve-

niently exhibited along with cinnamon, or other agreeable aromatic waters, which prevent the nausea it would otherwise, even in small doses, be apt to occasion.

ACETUM AROMATICUM.

Succ.

Aromatic vinegar.

Take of
- Tops of Rosemary,
- Leaves of sage, each four ounces;
- Flowers of lavender, two ounces;
- Cloves, two drams;
- Vinegar, eight pounds

Macerate for four hours, express the liquor, and strain it.

This may be considered as an elegant improvement of what had formerly a place in the foreign pharmacopœias, under the title of *Acetum prophylacticum*, which contained not only the present articles, but also a confused farrago of others, as wormwood, rue, garlic, cinnamon, &c.

It is said, that during the plague at Marseilles, four persons, by the use of the acetum prophylacticum as a preservative, attended unhurt, multitudes of those who were infected; that under colour of those services, they robbed both the sick and the dead; and that one of them being afterwards apprehended, saved himself from the gallows by discovering the remedy. The preparation was hence called *Vinaigre des quatre voleurs*; "The vinegar of the "four thieves." It is not to be doubted, that vinegar, impregnated with antiseptic vegetables, will contribute greatly to prevent the effects of contagious air. And in the present acetum aromaticum we have a stronger and better impregnation than from the numerous articles which were before employed. We are far, however, from imagining that it will be able to counteract the contagion of the plague: but it may on different occasions be more powerful than vinegar in its simple state, for impregnating with antiseptic vapours the chambers of the sick.

ACETUM ROSACEUM.

Succ.

Vinegar of roses.

Take of
- The flowers of red roses dried, any quantity; add to them twelve times their weight of vinegar.

Macerate for four days, and strain through paper.

This has has been chiefly made use of for embrocating the head and temples in some kinds of headach, &c. in which it has now and then been of service. It has also been used for certain cases of ophthalmia. But before it can be applied to the eyes, it will in general require to be diluted with water.

ACETUM LYTHARGYRI.

Succ.

Vinegar of litharge.

Take of
- Litharge, triturated, half a pound;
- Vinegar, two pounds.

Digest them together frequently, stirring the mixture with a wooden rod, till the colour of blue paper be not changed by the vinegar; preserve for use the clear liquor which is above the sediment.

This liquor is of the same nature with solutions of saccharum saturni, or ceruſſa acetata, as it is now called. It is only used externally, against cutaneous eruptions, redness, inflammations, &c. But even in these cases some think it is not void of danger: and it is alleged,

eged, that there are examples of its continued use having occasioned sundry ill consequences. Of this, however, we are very doubtful. But by means of the cerussa acetata every purpose to be answered by this may be accomplished. This liquor differs only in the proportions from the aqua lythargyri acetati of the London pharmacopœia.

ACETUM COLCHICI.

Ross.

Vinegar of colchicum.

Take of
- The recent root of colchicum cut into slices, one ounce;
- Vinegar, one pound.

Macerate with a gentle heat for two days; then strain after slight expression.

Although in our pharmacopœias a place be given to the oxymel and syrup of colchicum, both of which are formed from the vinegar, yet the vinegar itself is not directed to be kept in its separate state: Under this form however it may often be employed with advantage.

INFUSUM KINKINÆ.

Suec.

Infusion of Peruvian bark.

Take of
- Peruvian bark, bruised, an ounce and a half;
- Spring water, boiling, a pound and an half.

Digest for two hours, shaking the vessel frequently; then strain the liquor with expression.

The Peruvian bark, as we have already had occasion to observe, gives out its medical properties to water not less readily in the way of infusion than of decoction. And in the former, the extractive matter is even more in a state of solution. An infusion, however, not only more elegant, but stronger than the present, might be obtained, from employing cold water in place of boiling water, and from continuing the maceration for a greater length of time. But in whatever manner it be formed, an infusion will often sit upon the stomach, when the bark either in substance or decoction cannot be retained.

AQUA PICEA.

Tar water.

Take of
- Tar, two pounds;
- Water, one gallon;

Stir them strongly together with a wooden rod; and after standing to settle for twelve hours, pour off the water for use.

Tar-water has lately been recommended to the world as a certain and safe medicine in almost all diseases; a slow yet effectual alterative in cachexies, scurvies, chlorotic, hysterical, hypochondriacal, and other chronical complaints; and a sudden remedy in acute distempers which demand immediate relief, as pleurisies, peripneumonies, the small-pox, and all kinds of fevers in general. The medicine, though certainly far inferior to the character that has been given of it, is doubtless in many cases of considerable utility: it sensibly raises the pulse; and occasions some considerable evacuation, generally by perspiration or urine, though sometimes by stool or vomit. Hence it is supposed to act by increasing the vis vitæ, and enabling nature to expel the morbific humours.

We shall here insert, from the first public recommender of this liquor (Bishop Berkeley), some observations on the manner of using it. "Tar-water, when right, is not "paler than French, nor deeper "coloured than Spanish white-wine, "and full as clear; if there be not

" a fpirit very fenfibly perceived in " drinking, you may conclude the " tar-water is not good. It may " be drank either cold or warm. In " colics, I take it to be beft warm. " As to the quantity, in common " chronical indifpofitions, a pint " a-day may fuffice, taken on an " empty ftomach, at two or four " times, to wit, night and morn- " ing, and about two hours after " dinner and breakfaft: more may " be taken by ftronger ftomachs. " But thofe who labour under great " and inveterate maladies, muft " drink a greater quantity, at leaft " a quart every twenty-four hours. " All of this clafs muft have much " patience and perfeverance in the " ufe of this, as well as of all other " medicines, which, though fure, " muft yet in the nature of things " be flow in the cure of inveterate " chronical diforders. In acute ca- " fes, fevers of all kinds, it muft " be drank in bed, warm, and in " great quantity (the fever ftill en- " abling the patient to drink), per- " haps a pint every hour, which I " have known to work furprifing " cures. But it works fo quick, " and gives fuch fpirits, that the " patients often think themfelves " cured before the fever has quite " left them."

Notwithftanding thefe encomiums, tar water feems to be faft lofing its reputation. It is not probable that water can take up any of the more active principles of the tar; and it would perhaps be more convenient to feparate its acid by diftillation, and mix it with water occafionally: for it is pretty certain, that the water can only take up the acid of the tar, perhaps charged with a very fmall quantity of oily matter in the ftate of an acid foap.

DECOCTUM CATECHU.

Gen.

Decoction of catechu.

Take of
- Catechu, three drams;
- Spring-water, two pounds.
- Boil it to one pound; and add to the ftrained liquor,
- Syrup of quinces, three ounces.

This decoction may be confidered as nearly fimilar to the decoctum japonicum, and decoctum terræ japonicæ of the former editions of our pharmacopœia: and like thefe it will be found a very agreeable and ufeful medicine in fluxes that are not critical or fymptomatic, and in a weak lax ftate of the inteftines. A fpoonful or two may be taken every hour, or oftener: thus managed, it produces much better effects than if larger dofes are given at once. But for extracting the powers of the catechu, boiling is not requifite. By fimple infufion in warm water, all its active parts are readily and completely diffolved. It may in this manner alfo be readily united with cinnamon or other aromatics. And an infufum japonicum is, we think, a formula juftly intitled to a place in our pharmacopœias.

CHAP. XX.

VINA MEDICATA.

MEDICATED WINES.

THE original intention of medicated wines was, that medicines, which were to be continued for a length of time, might be taken in the most familiar and agreeable form; by this means a course of remedies was complied with, notwithstanding the repugnance and aversion which the sick often manifest to those directly furnished from the shops; and hence the inferior sort of people had their medicated ales. Nevertheless, as vinous liquors excellently extract the virtues of several simples, and are not ill fitted for keeping, they have been employed as officinal menstrua also; and substances of the greatest efficacy are trusted in this form. As compounds of water and inflammable spirit, they take up such parts of vegetables and animals as are soluble in those liquors; though most of them abound at the same time with a mucilaginous or viscous substance, which renders them less effectual menstrua than purer mixtures of water and spirit. They contain likewise a subtile acid, which somewhat further obstructs their action on certain vegetable and animal matters; but enables them, in proportion to its quantity, to dissolve some bodies of the metallic kind, and thus impregnate themselves with the corroborating virtues of steel, the alterative and emetic powers of antimony, and the noxious qualities of lead.

To all the medicated wines, after they have been strained, you may add about one-twentieth their quantity of proof-spirit, to preserve them from fermentation. They may be conveniently kept in the same kind of glass bottles that wines generally are for common uses, which should likewise be corked with the same care.

VINUM ALOES.

Lond.

Wine of aloes.

Take of
- Socotorine aloes, eight ounces;
- White canella, commonly called Winter's bark, two ounces;
- Spanish white-wine, six pints;
- Proof-spirit of wine, two pints.

Powder the aloes and white canella separately; when mixed, pour on them the wine: afterwards digest for fourteen days, now and then shaking them; lastly, strain.

It will not be amiss to mix white sand, cleansed from impurities, with the powder, in order to

vent the moistened aloes from getting into lumps.

VINUM ALOETICUM, vulgo TINCTURA SACRA.

Edin.

Aloetic wine, or *Sacred tincture.*

Take of

Socotorine aloes, one ounce;
Lesser cardamom seeds,
Ginger, each one dram;
Spanish white wine, two pounds.

Digest for seven days, stirring now and then, and afterwards strain.

This medicine has long been in great esteem, not only as a cathartic, but likewise as a stimulus; the wine dissolving all that part of the aloes in which these qualities reside, a portion only of the less active resinous matter being left. The aromatic ingredients are added to warm the medicine, and somewhat alleviate the ill flavour of the aloes: canella alba, or cloves, are said, among numerous materials that have been made trial of, to answer this end the most successfully; hence the introduction of the former of these into the formula of the London college.

The *tinctura sacra* appears from long experience to be a medicine of excellent service in languid, phlegmatic habits, not only for cleansing the primæ viæ, but likewise for stimulating the solids, warming the habit, promoting or exciting the uterine purgations, and the hæmorroidal flux. The dose, as a purgative, is from one to two ounces, or more. It may be introduced into the habit, so as to be productive of excellent effects, as an alterant, by giving it in small doses, at proper intervals: thus managed, it does not for a considerable time operate remarkably by stool; but at length proves purgative, and occasions a lax habit of much longer continuance than that produced by the other common cathartics.

VINUM AMARUM.

Edin.

Bitter wine.

Take of

Root of gentian, half an ounce;
Peruvian bark, one ounce;
Seville orange-peel, dried, two drams;
Canella alba, one dram;
Proof-spirit, four ounces;
Spanish white-wine, two pounds and a half.

First pour on the spirit, and after twenty-four hours add the wine; then macerate for three days, and strain.

This wine is intended to supply the place of the *Tinctura ad stomachicos*, as it was formerly called. The wine is a menstruum fully capable of extracting the active powers of the different ingredients; and it supplies us with a very useful and elegant stomachic medicine, answering the purposes intended much better than the celebrated elixir of Van Helmont, and other unchemical and uncertain preparations, which had formerly a place in our pharmacopœias.

VINUM ANTIMONII.

Lond.

Wine of antimony.

Take of

Vitrified antimony, powdered, one ounce;
Spanish white wine, a pint and an half.

Digest for twelve days, frequently shaking the vessel, and filtre the wine through paper.

VINUM ANTIMONIALE.

Edin.

Antimonial wine.

Take

Take of
Glafs of antimony, finely powdered, one ounce;
Spanifh white-wine, fifteen ounces.
Macerate for three days, ftirring them now and then, and afterwards ftrain the liquor through paper.

However carefully the fettling and decantation are performed, the filtration of the wine through paper appears to be neceffary, left fome of the finer parts of the glafs fhould chance to remain fufpended in fubftance. It is not here, as in moft other wines and tinctures, where the matter left undiffolved by the menftruum is of little confequence: the antimonial glafs, after the action of the wine, continues as virulent as ever, and capable of impregnating frefh parcels of the liquor as ftrongly as the firft, and this, in appearance, inexhauftibly. After thirty repeated infufions, it has been found fcarce fenfibly diminifhed in weight.

The antimonial wine poffeffes the whole virtues of that mineral, and may be fo dofed and managed as to perform all that can be effected by any antimonial preparation; with this advantage, that as the active part of the antimony is here already diffolved and rendered mifcible with the animal fluids, its operation is more certain. Given from ten to fifty or fixty drops, it acts generally as an alterative and diaphoretic; in larger dofes, as a diuretic and cathartic; whilft three or four drams prove for the moft part violently emetic. It has been chiefly ufed with this laft intention, in fome maniacal and apoplectic cafes; and hence it gained the name of emetic wine.

The quantity of the reguline part muft, however, vary according to the proportions of the acid matter in different wines, and the operation of the medicine muft be thereby lefs certain in degree; the vitrum is preferable to the crocus for making this preparation. See the different preparations of Antimony.

VINUM ANTIMONII TARTARISATI.

Lond.

Wine of tartarifed antimony.

Take of
Tartarifed antimony, two fcruples;
Boiling diftilled water, two ounces;
Spanifh white wine, eight ounces.
Diffolve the tartarifed antimony in the boiling diftilled water, and add to it the wine.

VINUM e TARTARO ANTIMONIALI.

Edin.

Wine of antimonial tartar.

Take of
Antimonial, commonly called Emetic tartar, twenty-four grains; and diffolve it in a pound of Spanifh white-wine.

Watery folutions of emetic tartar, on ftanding, precipitate a part which is lefs completely in a faline ftate; by this means, and efpecially if the folution be not fhaken before ufing it, the dofe of that medicine is fomewhat ambiguous: in the above formula, the acid matter of the wine increafes the faline ftate of the antimony, and therefore its folubility, whereby the operation of the medicine is more certain, and in many cafes more powerful. From the certainty of its effects, this preparation might be very convenient in large hofpitals or armies, where great numbers of the fick, and inaccurate nurfing, frequently impofe an uncertain or dangerous practice.

In

In the formula employed by the Edinburgh college, each ounce of the wine contains two grains of the tartarized antimony; but in that of the London college, each ounce of the menſtruum contains four grains: hence, while an ounce of the one may be employed for exciting full vomiting, the ſame quantity of the other would be too ſtrong a doſe. It is much to be regretted, that in articles of this active nature, the proportions employed by the two colleges ſhould differ ſo conſiderably: and it would perhaps have been better, had the London college adopted the proportions employed by that of Edinburgh, as they have followed them in adopting this formula.

VINUM FERRI.

Lond.

Wine of iron.

Take of
Filings of iron, four ounces;
Spaniſh white wine, four pints.
Digeſt for a month, often ſhaking the veſſel, and then ſtrain.

This formula of the London pharmacopœia is now not only ſimplified, but improved, when compared with their former vinum chalybeatum: for the cinnamon and other articles which were then conjoined with the iron, were certainly rather prejudicial than otherwiſe; but at the ſame time, Rheniſh wine, formerly employed, is perhaps to be conſidered as a better menſtruum than the Spaniſh wine now directed. It may ſtill, however, be juſtly conſidered as a good chalybeate; and we think the Edinburgh college have done wrong in rejecting the formula from their pharmacopœia.

By the London college it was formerly prepared by maceration, without heat; now, however, they direct digeſtion for the ſpace of a month. Some have objected to the uſe of heat, that it impregnated the wine more ſtrongly with the metal, and thus rendered it more unpleaſant to the taſte: but if this was the only inconvenience, the remedy would be eaſy, diluting it with more wine. Heat has another effect, much leſs deſirable, and which art cannot remedy; making a diſagreeable alteration in the quality of the wine itſelf: hence it is neceſſary that it ſhould be very moderate.

Steel wine is a very uſeful preparation of this metal, and frequently exhibited in cholorotic and other indiſpoſitions where chalybeates are proper. Boerhaave recommends it as one of the nobleſt medicines he was acquainted with, for promoting that power in the body by which blood is made, when weakened by a bare debility of the over-relaxed ſolids, and an indolent, cold, aqueous indiſpoſition of the juices: for in this caſe, ſays he, no virtue of any vegetable or animal ſubſtance, no diet, nor regimen, can effect that which is effected by iron: but it proves hurtful where the vital powers are already too ſtrong, whether this proceeds from the fluids or the ſolids. The doſe is from a dram to half an ounce; which may be repeated two or three times a day.

Some direct ſolutions of iron, made in wine or other vegetable acids, to be evaporated to the conſiſtence of an extract, under the title of Extractum martis. Theſe preparations have no advantage, in point of virtue, above the common chalybeates; though in ſome forms, that of pills in particular, they may be rather more commodiouſly exhibited than moſt of the officinal chalybeates of equal efficacy. They may be made into pills by themſelves, and are tenacious enough to reduce

reduce other ſubſtances into that form.

VINUM IPECACUANHÆ.

Lond.

Wine of ipecacuanha.

Take of
- The root of ipecacuanha, bruiſed, two ounces;
- Spaniſh white wine, two pints.

Digeſt for ten days, and ſtrain.

VINUM, vulgo TINCTURA IPECACUANHA.

Edin.

Wine, or Tincture of ipecacuanha.

Take of
- Ipecacuanha, in powder, one ounce;
- Spaniſh white wine, fifteen ounces.

After three days maceration, let the tincture be filtrated for uſe.

Both theſe wines are very mild and ſafe emetics, and equally ſerviceable, in dyſenteries alſo, with the ipecacuanha in ſubſtance; this root yielding nearly all its virtues to the Spaniſh white wine, here ordered, as it does a good ſhare of them even to aqueous liquors. The common doſe is an ounce, more or leſs, according to the age and ſtrength of the patient. The college of Edinburgh added formerly a ſcruple of cochineal, which imparts a fine red colour to the liquor: this article is now omitted, on a complaint, that the red colour of the matters evacuated, ſometimes alarmed the patient, as if it proceeded from a diſcharge of blood.

VINUM MILLEPEDARUM.

Edin.

Wine of millepedes.

Take of
- Live millepedes, bruiſed, one ounce;
- Rheniſh wine, eight ounces.

Infuſe them together for ſeven days, and afterwards preſs the liquor through a ſtrainer.

This wine has been commended as an admirable cleanſer of all the viſcera, yielding to nothing in the jaundice, and obſtructions of the kidneys or urinary paſſages, of excellent ſervice in almoſt all chronical diſtempers, even in ſcrophulous and ſtrumous ſwellings, and in defluxions of rheum upon the eyes. But thoſe who expected theſe extraordinary virtues from it, have often been deceived; and at preſent there are few who have any great dependence on it: and hence it is omitted by the London college, probably without any loſs. It is directed to be given from half an ounce to two ounces.

VINUM RHABARBARI.

Lond

Wine of rhubarb.

Take of
- Sliced rhubarb, two ounces and an half;
- Leſſer cardamom-ſeeds, bruiſed and huſked, half an ounce;
- Saffron, two drams;
- Spaniſh white wine, two pints;
- Proof ſpirit of wine, eight ounces.

Digeſt for ten days, and ſtrain.

VINUM RHEI.

Edin.

Rhubarb wine.

Take of
- Rhubarb, two ounces;
- Canella alba, one dram;
- Proof-ſpirit, two ounces;
- Spaniſh white wine, fifteen ounces.

Macerate for ſeven days, and ſtrain.

By aſſiſting the ſolvent power of the menſtruum, the proof-ſpirit in the above formulæ is a very uſeful ad-

addition. This is a warm, cordial, laxative medicine. It is used chiefly in weakness of the stomach and bowels, and some kinds of looseness, for evacuating the offending matter, and strengthening the tone of the viscera. It may be given from half a spoonful to three or four spoonfuls or more, according to the circumstances of the disorder, and the purposes it is intended to answer.

VINUM NICOTIANÆ.

Tobacco wine.

Take of
The dried leaves of the best Virginian tobacco, one ounce;
Spanish white wine, one pound,
Macerate for four days, and then strain the liquor.

We have already, under the article NICOTIANA in the Materia Medica, offered some observations on its late introduction into practice by Dr Fowler, as a very useful remedy in the cure of dropsies and dysuries. From his treatise on that subject the present formula is taken; and we may observe, that while in practice we have frequently experienced from the tobacco those good effects for which Dr Fowler recommends it, we are inclined to give the present formula the preference to every other which he has proposed. It seems to extract more fully the active principles of the tobacco than either water or spirit taken separately.

VINUM SCILLITICUM.

Suec.

Squill wine.

Take of
Dried squills, sliced, one ounce;
Ginger, one dram;
French white wine, two pounds.
Macerate for three days, and then strain.

By the wine employed as a menstruum, the active properties of the squills may be readily extracted; and in some cases at least the present formula may justly be considered as intitled to a preference over either the acetum or oxymel scillæ, which have a place in our pharmacopœias. The ginger here added to the squills operates as an useful corrigent; and on this account the present formula is preferable to the vinum scilliticum of some other pharmacopœias, where the squills alone are used: For it is chiefly used in those cases where it is intended that the squills should exert their effects, not on the alimentary canal, but on the kidneys or other excretions.

VINUM ZEDORARIÆ.

Dan.

Zedoary wine.

Take of
The root of zedoary, gently bruised, two pounds;
Spirit of wine, eight pounds.
Let them be macerated for a month; then add
Spring water, eight pounds.
Distil from thence twelve pounds.

Though this formula has the name of a wine, yet it is in reality a distilled spirit, nothing from the zedoary but a portion of its essential oil being united with the ardent spirit: and we are inclined to think, that the active powers of this article, both as depending on aroma and bitterness, might be better obtained by a simple infusion in Spanish white-wine.

CHAP.

CHAP. XXI.

TINCTURÆ.

TINCTURES.

RECTIFIED ſpirit of wine is the direct menſtruum of the reſins and eſſential oils of vegetables, and totally extracts theſe active principles from ſundry vegetable matters, which yield them to water either not at all, or only in part. It diſſolves likewiſe the ſweet ſaccharine matter of vegetables; and generally thoſe parts of animal bodies, in which their peculiar ſmell and taſte reſide.

The virtues of many vegetables are extracted almoſt equally by water and rectified ſpirit; but in the watery and ſpirituous tinctures of them there is this difference, that the active parts in the watery extractions are blended with a large proportion of inert gummy matter, on which their ſolubility in this menſtruum in great meaſure depends, while rectified ſpirit extracts them almoſt pure from gum. Hence, when the ſpirituous tinctures are mixed with watery liquors, a part of what the ſpirit had taken up from the ſubject generally ſeparates and ſubſides, on account of its having been freed from that matter which, being blended with it in the original vegetable, made it ſoluble in water. This, however, is not univerſal; for the active parts of ſome vegetables, when extracted by rectified ſpirit, are not precipitated by water, being almoſt equally diſſoluble in both menſtrua.

Rectified ſpirit may be tinged by vegetables of all colours, except blue: the leaves of plants in general, which give out but little of their natural colour to watery liquors, communicate to ſpirit the whole of their green tincture, which for the moſt part proves elegant, though not very durable.

Fixed alkaline ſalts deepen the colour of ſpirituous tinctures; and hence have been ſuppoſed to promote the diſſolving power of the menſtruum, though this does not appear from experience: in the trials that have been made to determine this affair, no more was found to be taken up in the deep-coloured tinctures than in the paler ones, and often not ſo much: if the alkali be added after the extraction of the tincture, it will heighten the colour as much as when mixed with the ingredients at firſt. Nor is the addition of theſe ſalts in making tinctures, uſeleſs only, but likewiſe prejudicial, as they in general injure the flavour of aromatics, and ſuperadd

peradd a quality, ſometimes contrary to the intention of the medicine. Volatile alkaline ſalts, in many caſes, promote the action of the ſpirits. Acids generally weaken it; unleſs when the acid has been previouſly combined with the vinous ſpirit into a compound of new qualities, called *dulcified ſpirit.*

TINCTURA ABSINTHII.

Edin.

Tincture of wormwood.

Take of
- The flowering tops of wormwood, properly dried, four ounces;
- Rectified ſpirit of wine, two pounds;

Macerate for two days; then preſs out the ſpirit, and pour it upon,
- Of wormwood, two ounces.

Macerate again for four days; then preſs the tincture through a cloth, and afterwards ſtrain it through paper.

The aromatic parts of wormwood are more eſpecially found in the flowering tops, and its bitterneſs in the leaves: but as the latter are replete with a mucilaginous matter, which might impede the action of the menſtruum on the aromatic parts in this very elegant formula, the flowering tops are infuſed firſt, and their tincture made to extract the bitter parts of the leaves and ſtalks. This preparation may therefore be conſidered as containing the whole virtues of the plant.

In the tincture of wormwood we have one of the ſtrongeſt of the vegetable bitters. It is ſometimes uſed as an anthelmintic, and ſtill more frequently in ſtomach aliments: But to moſt people it is a very diſagreeable medicine.

TINCTURA ALOES.

Lond.

Tincture of aloes.

Take of
- Socotorine aloes, powdered, half an ounce;
- Extract of liquorice, an ounce and an half;
- Diſtilled water,
- Proof-ſpirit of wine, of each eight ounces.

Digeſt in a ſand-bath, now and then ſhaking the veſſel, until the extract be diſſolved, and then ſtrain.

In this ſimple tincture, all the active parts of the aloes, whether of a gummy or reſinous nature, are ſuſpended in the menſtruum. The extract of liquorice ſerves both to promote the ſuſpenſion and to cover the taſte of the aloes; and in theſe caſes where we wiſh for the operation of the aloes alone, without the aid either of an adjuvans or corrigens, this is perhaps one of the beſt formulæ under which they can be exhibited in a fluid ſtate.

TINCTURA ALOES COMPOSITA.

Lond.

Compound tincture of aloes.

Take of
- Tincture of myrrh, two pints;
- Saffron,
- Socotorine aloes, of each three ounces.

Digeſt for eight days, and ſtrain,

ELIXIR ALOES, vulgo PROPRIETATIS.

Edin.

Elixir of aloes, commonly called *Elixir proprietatis.*

Take of
- Myrrh in powder, two ounces;
- Socotorine aloes, an ounce and a half;

Engliſh

English saffron, one ounce;
Rectified spirit of wine,
Proof-spirit, of each one pound.

Digest the myrrh with the spirit for the space of four days; then add the aloes in powder, and the saffron: continue the digestion for two days longer, suffer the feces to subside, and pour off the clear elixir.

These two formulæ, though the mode of preparation be somewhat varied, do not materially differ from each other; and both may be considered as being the *elixir proprietatis* of Paracelsus, improved with regard to the manner of preparation. The myrrh, saffron, and aloes, have been usually directed to be digested in the spirit together: by this method, the menstruum soon loads itself with the latter, so as scarce to take up any of the myrrh; whilst a tincture, extracted first from the myrrh, readily dissolves a large quantity of the others. The alkaline salt, commonly ordered in these preparations with a view to promote the dissolution of the myrrh, we have already observed to be useless; and accordingly it is now omitted. Instead of employing the rectified spirit alone, the Edinburgh college have used an equal proportion of proof-spirit, which is not only a more complete menstruum, but also renders the medicine less heating.

This medicine is highly recommended, and not undeservedly, as a warm stimulant and aperient. It strengthens the stomach and other viscera, cleanses the first passages from tenacious phlegm, and promotes the natural secretions in general. Its continued use has frequently done much service in cahectic and icteric cases, uterine obstructions, and other similar disorders; particularly in cold, pale, phlegmatic habits. Where the patient is of a hot, bilious constitution, and florid complexion, this warm stimulating medicine is less proper, and sometimes prejudicial. The dose may be from twenty drops to a tea-spoonful or more, two or three times a-day, according to the purposes which it is intended to answer.

ELIXIR ALOES sive PROPRIETATIS VITRIOLICUM.

Edin.

Vitriolic elixir of aloes, or *Proprietatis.*

Take of
Myrrh,
Socotorine aloes, of each an ounce and a half;
English saffron, one ounce;
Dulcified spirit of vitriol, one pound.

Digest the myrrh with the spirit for four days, in a close vessel; then add the saffron and aloes.

Digest again four days; and when the feces have subsided, pour out the elixir.

The Edinburgh College have reformed this preparation considerably; and especially by directing the myrrh to be digested first, for the same reasons as were observed on the preceding article. Here the dulcified spirit of vitriol is very judiciously substituted to the spirit of sulphur, ordered in other books of pharmacy to be added to the foregoing preparation; for that strong acid precipitates from the liquor great part of what it had before taken up from the other ingredients; whereas, when the acid is previously combined with the vinous spirit, and thereby dulcified, as it is called, it does not impede its dissolving power. This elixir possesses the general virtues of the preceding, and is, in virtue

virtue of the menſtruum, preferred to it in hot conſtitutions, and weakneſſes of the ſtomach.

TINCTURA AROMATICA.

Edin.

Aromatic tincture.

Take of
- Cinnamon, ſix drams;
- Leſſer cardamom-ſeeds, one ounce;
- Garden-angelica root, three drams;
- Long-pepper, two drams;
- Proof-ſpirit, two pounds and a half.

Macerate for ſeven days, and filtre the tincture.

This preparation is improved from the preceding editions by the omiſſion of ſome articles, either ſuperfluous or foreign to the intention; galangal, gentian, zedoary, bay-berries, and calamus aromaticus. As now reformed, it is a ſufficiently elegant warm aromatic.

This very warm aromatic is too hot to be given without dilution. A tea-ſpoonful or two may be taken in wine, or any other convenient vehicle, in languors, weakneſs of the ſtomach, flatulencies, and other ſimilar complaints; and in theſe caſes it is often employed with advantage.

TINCTURA ASÆ FŒTIDÆ.

Lond

Tincture of aſafœtida.

Take of
- Aſafœtida, four ounces;
- Rectified ſpirit of wine, two pints.

Digeſt with a gentle heat for ſix days, and ſtrain.

TINCTURA FŒTIDA.

Edin.

Fetid tincture.

Take of
- Aſafœtida, two ounces;
- Vinous ſpirit of ſal ammoniac, one pound.

Macerate for ſix days in a cloſe ſhut veſſel, and ſtrain.

Of theſe two formulæ, the laſt is perhaps moſt generally uſeful: The vinous ſpirit of ſal ammoniac is not only a more powerful menſtruum than the rectified ſpirit of wine, but alſo coincides with the general virtues of the remedy.

This tincture poſſeſſes the virtues of the aſafœtida itſelf; and may be given from ten drops to fifty or ſixty. It was firſt propoſed to be made with proof-ſpirit: this diſſolves more of the aſafœtida than a rectified one; but the tincture proves turbid; and therefore rectified ſpirit, which extracts a tranſparent one, is very juſtly preferred where ardent ſpirit is to be employed: and with this menſtruum we can at leaſt exhibit the aſafœtida in a liquid form to a greater extent.

TINCTURA BALSAMI PERUVIANI.

Lond.

Tincture of balſam of Peru.

Take of
- Balſam of Peru, four ounces;
- Rectified ſpirit of wine, one pint.

Digeſt until the balſam be diſſolved.

The whole of the Peruvian balſam is diſſolved by ſpirit of wine: this therefore may be conſidered as a good method of freeing it from its impurities; while at the ſame time it is thus reduced to a ſtate under which it may be readily exhibited: but at preſent it is very little employed, unleſs in compoſition, either under this or any other form.

TINC-

TINCTURA BALSAMI TOLUTANI.

Lond.

Tincture of balsam of Tolu.

Take of
- Balsam of Tolu, one ounce and an half;
- Rectified spirit of wine, one pint.

Digest until the balsam be dissolved, and strain.

TINCTURA TOLUTANA.

Edin.

Tincture of balsam of Tolu.

Take of
- Balsam of Tolu, an ounce and a half;
- Rectified spirit of wine, one pound.

Digest until the balsam be dissolved; and then strain the tincture.

This solution of balsam of Tolu possesses all the virtues of the balsam itself. It may be taken internally, with the several intentions for which that valuable balsam is proper, to the quantity of a tea-spoonful or two, in any convenient vehicle. Mixed with the plain syrup of sugar, it forms an elegant balsamic syrup.

TINCTURA BENZOES COMPOSITA.

Lond.

Compound tincture of benzoine.

Take of
- Benzoine, three ounces;
- Storax, strained, two ounces;
- Balsam of Tolu, one ounce;
- Socotorine aloes, half an ounce;
- Rectified spirit of wine, two pints.

Digest with a gentle heat for three days, and strain.

BALSAMUM TRAUMATICUM.

Edin.

Traumatic balsam.

Take of
- Benzoine, three ounces;
- Balsam of Peru, two ounces;
- Hepatic aloes, half an ounce;
- Rectified spirit of wine, two pounds.

Digest them in a sand heat, for the space of ten days, and then strain the balsam.

Although the London college have changed the name of this composition, yet they have made very little alteration on the formula which, in their last edition, had the name of *Traumatic balsam;* a name which it still retains in the Edinburgh pharmacopœia; and both may be considered as elegant contractions of some very complicated compositions, which were celebrated under different names; such as Baumé de Commadeur, Wade's balsam, Friar's balsam, Jesuits drops, &c. These, in general, consisted of a confused farrago of discordant substances. They, however, derived considerable activity from the benzoine and aloes; and every thing to be expected from them may readily be obtained from the present formulæ.

The compound tincture of benzoine, or traumatic balsam, stands highly recommended, externally, for cleansing and healing wounds and ulcers, for discussing cold tumours, allaying gouty, rheumatic, and other old pains and aches; and likewise internally, for warming and strengthening the stomach and intestines, expelling flatulencies, and relieving colicy complaints. Outwardly, it is applied cold on the part with a feather; inwardly, a

 few

few drops are taken at a time, in wine or any other convenient vehicle.

There is, however, reaſon to think that its virtues have been conſiderably over-rated; and at preſent it is much leſs employed than formerly, recourſe being chiefly had to it, in caſes of recent wounds, with the view of ſtopping hæmorrhagies, and of promoting healing by the firſt intention, as it is called.

TINCTURA CANTHARIDIS.

Lond.

Tincture of the Spaniſh fly.

Take of
- Bruiſed cantharides, two drams;
- Cochineal, powdered, half a dram;
- Proof-ſpirit of wine, one pint and an half.

Digeſt for eight days, and ſtrain.

Edin.

Take of
- Cantharides, one dram;
- Proof-ſpirit, one pound.

Digeſt for four days, and ſtrain through paper.

These tinctures poſſeſs the whole virtues of the fly, and are the only preparations of it deſigned for internal uſe; tinctures being by far the moſt commodious and ſafe form for the exhibition of this active drug. The two tinctures are ſcarcely different in virtue from each other. The cochineal is uſed only as a colouring ingredient: the gum guaiacum, camphor, and eſſential oil of juniper berries, which were formerly added, however well adapted to the intentions of cure, could be of little conſequence in a medicine limited to ſo ſmall a doſe. If any additional ſubſtances ſhould be thought requiſite for promoting the effect of the cantharides, whether as a diuretic, as a detergent in ulcerations of the urinary paſſages, or as a ſpecific reſtringent of ſeminal gleets and the fluor albus, they are more advantageouſly joined extemporaneouſly to the tincture, or interpoſed by themſelves at proper intervals. The uſual doſe of theſe tinctures, is from ten to twenty drops; which may be taken in a glaſs of water, or any other more agreeable liquor, twice a-day; and increaſed by two or three drops at a time, according to the effect.

The tincture of cantharides has of late been highly celebrated as a ſucceſsful remedy in diabetic caſes; and in ſome inſtances of this kind, its uſe has been puſhed to a very conſiderable extent, without giving riſe to any ſtrangurious affections: But we have not found it productive of a change for the better in any of thoſe caſes of diabetes in which we have tried it.

TINCTURA CARDAMOMI.

Lond.

Tincture of cardamom.

Take of
- Leſſer cardamom-ſeeds, huſked and bruiſed, three ounces;
- Proof-ſpirit of wine, two pints.

Digeſt for eight days, and ſtrain.

Edinb.

Take of
- Leſſer cardamom-ſeeds, ſix ounces;
- Proof-ſpirit, two pounds and a half.

Macerate for eight days, and ſtrain through paper.

Tincture of cardamoms has been in uſe for a conſiderable time. It is a pleaſant, warm cordial; and may be taken, along with any proper vehicle, from a dram to a ſpoonful or two.

TINC-

TINCTURA CARDAMOMI COMPOSITA.

Lond.

Compound tincture of cardamom.

Take of
- Lesser cardamom-seeds, husked,
- Caraway-seeds,
- Cochineal, each, powdered, two drams;
- Cinnamon, bruised, half an ounce;
- Raisins, stoned, four ounces;
- Proof-spirit, two pints.

Digest for fourteen days, and strain.

This tincture contains so small a proportion of cardamoms as to be hardly intitled to derive its name from that article; and from the large proportion of raisins which it contains, the influence of the aromatics must be almost entirely prevented; while, at the same time, from these it cannot be supposed to obtain any active impregnation.

TINCTURA CASCARILLÆ.

Lond.

Tincture of cascarilla.

Take of
- The bark of cascarrilla, powdered, four ounces;
- Proof-spirit of wine, two pints.

Digest with a gentle heat for eight days, and strain.

Proof-spirit readily extracts the active powers of the cascarilla; and the tincture may be employed to answer most of those purposes for which the bark itself is recommended: But in the cure of intermittents, it in general requires to be exhibited in substance.

TINCTURA CASTOREI.

Lond.

Tincture of castor.

Take of
- Russia castor, powdered, two ounces;
- Proof-spirit of wine, two pints.

Digest for ten days, and strain.

Edinb.

Take of
- Russia castor, an ounce and a half;
- Rectified spirit of wine, one pound.

Digest them with a gentle heat for six days, and afterwards strain off the liquor.

An alkaline salt was formerly added in this last prescription, which is here judiciously rejected, as being at least an useless, if not prejudicial, ingredient. It has been disputed, whether a weak or rectified spirit, and whether cold or warm digestion, are preferable for making this tincture. To determine this point, the following experiment has been mentioned. "Some fine Siberia castor having "been infused in good French "brandy, without heat, for twenty "days, the tincture proved very "weak: On the same individual "castor (the magma or residuum "of the former tincture) the same "quantity of rectified spirit was "poured as before of brandy; and "after a few hours warm digestion, "a tincture was extracted much "stronger than the other." But this experiment is not satisfactory; the effects of the two menstrua, and of heat, having been respectively compared in very different circumstances.

From other trials, it appears, that castor, macerated without heat, gives out its finer and most grateful parts to either spirit, most perfectly to the rectified; that heat enables both menstrua to extract greatest part of its grosser and more nauseous matter; and that proof-spirit extracts this last more readily than rectified.

The tincture of caſtor is recommended in moſt kinds of nervous complaints and hyſteric diſorders: In the latter it ſometimes does ſervice, though many have complained of its proving ineffectual. The doſe is from twenty drops to forty, fifty, or more.

TINCTURA CASTOREI COMPOSITA.

Edin.

Compound tincture of caſtor.

Take of
- Ruſſia caſtor, one ounce;
- Aſafœtida, half an ounce;
- Vinous ſpirit of ſal ammoniac, one pound.

Digeſt for ſix days in a cloſe ſtopped phial, frequently ſhaking the veſſel; and then ſtrain the tincture.

This compoſition is a medicine of real efficacy, particularly in hyſterical diſorders, and the ſeveral ſymptoms which accompany them. The ſpirit here uſed is an excellent menſtruum, both for the caſtor and the aſafœtida, and greatly adds to their virtues.

TINCTURA CATECHU.

Lond.

Tincture of catechu.

Take of
- Catechu, three ounces;
- Cinnamon, bruiſed, two ounces;
- Proof-ſpirit of wine, two pints.

Digeſt for three days, and ſtrain.

TINCTURA JAPONICA.

Edin.

Japonic tincture.

Take of
- Japan earth, three ounces;
- Cinnamon, two ounces;
- Proof-ſpirit, two pounds and a half.

After digeſtion for eight days, let the tincture be paſſed through a ſtrainer.

A tincture of this kind, with the addition of Peruvian bark, ambergris, and muſk, to the ingredients above directed, was formerly kept in the ſhops. The tincture here received, is preferable for general uſe: where any other ingredients are required, tinctures of them may be occaſionally mixed with this in extemporaneous preſcription. The cinnamon is a very uſeful addition to the catechu, not only as it warms the ſtomach, &c. but likewiſe as it improves the roughneſs and aſtringency of the other.

This tincture is of ſervice in all kinds of defluxions, catarrhs, looſeneſſes, uterine fluors, and other diſorders, where mild aſtringent medicines are indicated. Two or three tea-ſpoonfuls may be taken every now and then in red wine, or any other proper vehicle.

TINCTURA CINNAMOMI.

Lond.

Tincture of cinnamon.

Take of
- Cinnamon, bruiſed, one ounce and an half,
- Proof-ſpirit of wine, one pint.

Digeſt for ten days, and ſtrain.

Edin.

Take of
- Cinnamon, three ounces,
- Proof-ſpirit, two pounds and a half,

Macerate for eight days, and ſtrain.

The tincture of cinnamon poſſeſſes the reſtringent virtues of the cinnamon, as well as its aromatic cordial ones; and in this reſpect it differs from the diſtilled waters of that ſpice.

TINC-

TINCTURA CINNAMOMI COMPOSITA.

Lond

Compound tincture of cinnamon.

Take of
- Cinnamon, bruised, six drams;
- Lesser cardamom-seeds, husked, three drams;
- Long pepper,
- Ginger, of each, in powder, two drams,
- Proof-spirit of wine, two pints.

Digest for eight days, and strain.

From the different articles which this tincture contains, it must necessarily be of a more hot and fiery nature than the former, though much less strongly impregnated with the cinnamon.

TINCTURA COLOMBÆ.

Lond.

Tincture of colomba.

Take of
- Colomba-root, powdered, two ounces and an half;
- Proof-spirit of wine, two pints.

Digest for eight days, and strain.

The colomba readily yields its active qualities to the menstruum here employed; and accordingly, under this form, it may be advantageously employed against bilious vomitings, and those different stomach ailments, in which the colomba has been found useful: but where there does not occur some objection to its use in substance, that form is in general preferable to the tincture, which is now for the first time introduced into the Edinburgh pharmacopœia.

TINCTURA CORTICIS AURANTII.

Lond.

Tincture of orange-peel.

Take of
- The fresh exterior peel of Seville oranges, three ounces;
- Proof-spirit of wine, two pints.

Digest for three days, and strain.

By this menstruum, both the bitter quality of the orange skins, and likewise their peculiar essential oil, is extracted: hence it may be employed for any purpose in medicine which these are capable of answering. It is, however, but rarely used; and, as well as the former, has now only for the first time a place in the London pharmacopœia.

TINCTURA CORTICIS PERUVIANI.

Lond.

Tincture of Peruvian bark.

Take of
- Peruvian bark, powdered, four ounces;
- Proof-spirit of wine, two pints.

Digest with a gentle heat for eight days, and strain.

TINCTURA CORTICIS PERUVIANI.

Edin.

Tincture of Peruvian bark.

Take of
- Peruvian bark, four ounces;
- Proof-spirit, two pounds and a half.

Digest for ten days, and strain.

A medicine of this kind has been for a long time pretty much in esteem, and usually kept in the shops, though but lately received into the pharmacopœias. Some have employed highly-rectified spirit of wine as a menstruum; which they have taken care fully to saturate, by digestion on a large quantity of the bark. Others have thought of assisting the action of the spirit by the addition of a little fixed alkaline salt,

which does not however, appear to be of any advantage; and others have given the preference to the vitriolic acid, which was ſuppoſed, by giving a greater conſiſtence to the ſpirit, to enable it to ſuſtain more than it would be capable of doing by itſelf; at the ſame time that the acid improves the medicine by increaſing the roughneſs of the bark. This laſt tincture, and that made with rectified ſpirit, have their advantages; though for general uſe, that above directed is the moſt convenient of any, the proof-ſpirit extracting nearly all the virtues of the bark. It may be given from a teaſpoonful to half an ounce, or an ounce, according to the different purpoſes it is intended to anſwer.

TINCTURA CORTICIS PERUVIANI COMPOSITA.

Lond.

Compound tincture of Peruvian bark.

Take of

Peruvian bark, powdered, two ounces;
Exterior peel of Seville oranges, dried, one ounce and an half;
Virginian ſnake-root, bruiſed, three drams;
Saffron, one dram,
Cochineal, powdered, two ſcruples;
Proof-ſpirit of wine, twenty ounces.

Digeſt for fourteen days, and ſtrain.

This has been for a conſiderable time celebrated under the title of *Huxham's tincture of bark.*

The ſubſtances here joined to the bark, in ſome caſes, promote its efficacy in the cure of intermittents, and not unfrequently are abſolutely neceſſary. In ſome ill habits, particularly where the viſcera and abdominal glands are obſtructed, the bark, by itſelf, proves unſucceſsful, if not injurious; whilſt given in conjunction with ſtimulating ſtomachics and deobſtruents, it more rarely fails of the due effect. Orange-peel and Virginian ſnake-root are among the beſt additions for this purpoſe; to which it is thought by ſome neceſſary to join chalybeate medicines alſo.

As a corroborant and ſtomachic, it is given in doſes of two or three drams; but when employed for the cure of intermittents, it muſt be taken to a greater extent. For this purpoſe, however, it is rarely employed, unleſs with thoſe who are averſe to the uſe of the bark in ſubſtance, or whoſe ſtomachs will not retain it under that form.

TINCTURA CROCI.

Edin.

Tincture of ſaffron.

Take of

Engliſh ſaffron, one ounce;
Proof-ſpirit, fifteen ounces.

After digeſting them for five days, let the tincture be ſtrained thro' paper.

This tincture is ſimilar in virtue to the ſaffron wine. A ſpirituous menſtruum is here preferred to the wine, as a tincture drawn with the former retains its elegant colour longer, and is not apt to depoſite in keeping any part of what it had taken up from the ſaffron. The ſhops have been accuſtomed to employ treacle-water as a menſtruum for ſaffron, with a view to the promoting its efficacy with the intention of operating as an alexipharmac; but the acid in that compound water ſoon deſtroy the colour of the tincture.

TINCTURA FERRI MURIATI.

Lond.

Tincture of muriated iron.

Take

Take of
The ruſt of iron, half a pound;
Muriatic acid, three pounds;
Rectified ſpirit of wine, three pints.

Pour the muriatic acid upon the ruſt of iron in a glaſs veſſel; and ſhake the mixture now and then during three days. Set it by that the feces may ſubſide; then pour off the liquor: evaporate this to one pint, and, when cold, add to it the vinous ſpirit.

TINCTURA MARTIS.

Edinb

Tincture of iron.

Take of
The ſcales of iron, purified and powdered, three ounces;
Muriatic acid, as much as is ſufficient to diſſolve the powder.

Digeſt with a gentle heat; and the powder being diſſolved, add of rectified ſpirit of wine as much as will make up of the whole liquor two pounds and a half.

Of theſe two formulæ, that of the Edinburgh college is, in our opinion, in ſeveral reſpects intitled to the preference. The ſcales are much fitter for giving a proper ſolution than the ruſt. The ſtrength of the muriatic acid is ſo variable, that the quantity is left to the judgment of the operator. If the acid be ſuperabundant, the ſolution is of a green colour; if it be fully ſaturated with the iron, it is more or leſs of a reddiſh or yellow colour; and this ſerves as a pretty accurate criterion. As the muriatic acid combines leſs intimately with rectified ſpirit than any of the foſſil acids, ſo the after-proceſs of dulcification ſcarcely, if at all, impairs the ſolvent power of the acid; though, when the dulcification happens to be more than uſually complete, a ſmall quantity of ferruginous matter is ſometimes precipitated on adding the rectified ſpirit to the ſolution. But as the rectified ſpirit increaſes the volatility of the acid, ſo if it was added at firſt, we ſhould loſe much more of the menſtruum by the heat employed during the digeſtion. When this tincture is well prepared, it is of a yellowiſh-red colour; if the acid be ſuperabundant, it is more or leſs of a greeniſh hue; and if the rectified ſpirit has been impregnated with the aſtringent matter of oak caſks, it aſſumes an inky colour.

All the tinctures of iron are no other than real ſolutions of the metal made in acids, and combined with vinous ſpirits. The tinctures here directed differ from each other only in ſtrength, the acid being the ſame in both. In our former pharmacopœias, there was a tincture from the matter which remains after the ſublimation of the martial flowers; which, though it appears to be a good one, is now expunged as ſuperfluous. Some have recommended dulcified ſpirit of nitre as a menſtruum; but though this readily diſſolves the metal, it does not keep it ſuſpended. The marine is the only acid that can be employed for this purpoſe.

Theſe tinctures are greatly preferable to the calces or croci of iron, as being not only more ſpeedy, but likewiſe more certain in their operation. The latter, in ſome caſes, paſs off through the inteſtinal tube with little effect; whilſt the tinctures ſcarce ever fail. From ten to twenty drops of either of the tinctures may be taken two or three times a-day, in any proper vehicle; though it is ſeldom adviſable to extend the doſe of any tinctures of iron ſo far as the laſt of theſe quantities, eſpecially with the tincture in ſpirit of ſalt, which is exceedingly ſtrong of the iron.

TINCTURA FULIGINIS.

Edinb.

Tincture of foot.

Take of
- Shining wood-foot, one ounce;
- Afafœtida, half an ounce;
- Rectified fpirit of wine,
- Proof-fpirit, of each half a pound.

Digeft for fix days, and ftrain.

The proof-fpirit is not liable to any objection here, as giving a turbid tincture; for when foot is added, whatever fpirit be employed, the tincture will not prove tranfparent. Fuller, in his Pharmacopœia Domeftica, has a medicine under the title of *Hyfteric tincture*, fimilar to this, only with a little myrrh, which is no very material addition to afafœtida and foot. Thefe medicines are found ferviceable, not only in hyfteric cafes, but likewife in other nervous diforders. They may be given from a tea-fpoonful to a table-fpoonful twice a-day.

This medicine has by fome been thought ferviceable in obftructions of the menfes; but its activity may be confidered as depending much more on the afafœtida than on the foot.

TINCTURA GALBANI.

Lond.

Tincture of galbanum.

Take of
- Galbanum, cut into fmall pieces, two ounces;
- Proof-fpirit of wine, two pints.

Digeft with a gentle heat for eight days, and ftrain.

This tincture is now for the firft time introduced by the London college, and may be ufefully employed for anfwering feveral purpofes in medicine. It is one of the ftrongeft of the fetid gums; and although lefs active, yet much lefs difagreeable than afafœtida: and under the form of tincture it may be fuccefsfully employed in cafes of flatulence and hyfteria, where its effects are immediately required, particularly with thofe who cannot bear afafœtida.

TINCTURA GENTIANÆ COMPOSITA.

Lond.

Compound tincture of gentian.

Take of
- Gentian-root, fliced and bruifed, two ounces;
- Exterior dried peel of Seville oranges, one ounce;
- Leffer cardamom-feeds, hufked and bruifed, half an ounce;
- Proof-fpirit of wine, two pints.

Digeft for eight days, and ftrain.

TINCTURA AMARA, five ELIXIR STOMACHICUM.

Edin.

Bitter tincture, or ftomachic elixir.

Take of
- Gentian-root, two ounces:
- Seville orange-peel, dried, one ounce;
- Canella alba, half an ounce;
- Cochineal, half a dram;
- Proof-fpirit, two pounds and a half.

Macerate for four days, and ftrain through paper.

These are very elegant fpirituous bitters. As the preparations are defigned for keeping, lemon-peel, an excellent ingredient in the watery bitter infufions, has, on account of the perifhablenefs of its flavour, no place in thefe. The aromatics are here a very commodious ingredient, as in this fpirituous menftruum they are free from the inconvenience with which they are attended in other liquors, of rendering them untranfparent.

ELIXIR

ELIXIR GUAIACINUM.

Edin.

Elixir of guaiacum.

Take of
- Gum guaiacum, one pound;
- Balsam of Peru, three drams;
- Rectified spirit of wine, two pounds and a half.

This tincture may be considered as nearly agreeing in medical virtues with the two following. It is, however, less in use; but it may be employed with advantage in those cases where an objection occurs to the menstruum used in forming the others.

TINCTURA GUAIACI.

Lond.

Tincture of gum guaiacumum.

Take of
- Gum guaiacum, four ounces;
- Compound spirit of ammonia, a pint and a half.

Digest for three days, and strain.

ELIXIR GUAIACINUM VOLATILE.

Edin.

Volatile elixir of guaiacum.

Take of
- Gum guaiacum, four ounces;
- Balsam of Peru, two drams;
- Distilled oil of sassafras, half a dram;
- Vinous spirit of sal ammoniac, a pound and a half.

Macerate for six days in a close vessel, and strain.

In the last of these formulæ, the vinous spirit of sal ammoniac is less acrimonious than the menstruum directed by the London College; and the balsam of Peru, and distilled oil of sassafras, are useful additions, by increasing the permanence of its operation as a general stimulant, or more particularly as a diaphoretic.

These are very elegant and efficacious tinctures; the volatile spirit excellently dissolving the gum, and at the same time promoting its medicinal virtue. In rheumatic cases, a tea, or even table, soonful, taken every morning and evening in any convenient vehicle, particularly in milk, has proved of singular service.

TINCTURA HELLEBORI NIGRI.

Lond.

Tincture of black hellebore.

Take of
- Black hellebore root, in coarse powder, four ounces;
- Cochineal, powdered, two scruples;
- Proof-spirit of wine, two pints.

Digest with a gentle heat for eight days, and strain.

TINCTURA MELAMPODII.

Edin.

Tincture of melampodium, or black hellebore.

Take of
- Black hellebore root, four ounces;
- Cochineal, half a dram;
- Proof-spirit, two pounds and a half.

Digest them together for eight days, and afterwards filtre the tincture through paper.

This is perhaps the best preparation of hellebore, when designed for an alterative, the menstruum here employed extracting the whole of its virtues. It has been found, from experience, particularly serviceable in uterine obstructions; in sanguine constitutions, where chalybeates are hurtful, it has been said that it seldom fails of exciting the menstrual evacuations, and removing the ill consequences of their suppression.

preſſion. So great, according to ſome, is the power of this medicine, that wherever, from an ill conformation of the parts, or other cauſes, the expected diſcharge does not ſucceed upon the uſe of it, the blood, as Dr Mead has obſerved, is ſo forcibly propelled, as to make its way through other paſſages. A teaſpoonful of the tincture may be taken twice in a day in warm water, or any other convenient vehicle.

The college of Edinburgh had formerly a tincture of this root with wine. Proof-ſpirit is undoubtedly preferable, both as a menſtruum, and as being better fitted for keeping.

TINCTURA JALAPII.

Lond.

Tincture of jalap.

Take of

Powdered jalap root, eight ounces;

Proof-ſpirit of wine, two pints.

Digeſt with a gentle heat for eight days, and ſtrain.

TINCTURA JALAPPÆ.

Edin.

Tincture of jalap.

Take of

Jalap, in coarſe powder, three ounces;

Proof-ſpirit, fifteen ounces.

Digeſt them for eight days, and ſtrain the tincture.

Rectified ſpirit of wine was formerly ordered for the preparation of this tincture; but rectified ſpirit diſſolving little more than the pure reſinous parts of the jalap, rendered the uſe of the medicine ſomewhat leſs commodious than that of the tincture prepared with proof-ſpirit. Moſt of the tinctures made in rectified ſpirit, diluted with water, ſo as to be fit for taking, form a turbid white mixture. Many of them are ſafely taken in this form, without any further addition: but the cathartic ones are never to be ventured on without an admixture of ſyrup or mucilage to keep the reſin united with the liquor; for if it ſeparates in its pure undivided ſtate, it never fails to produce violent gripes.

Some have preferred to the tinctures of jalap, a ſolution in ſpirit of wine of a known quantity of the reſin extracted from the root; and obſerve, that this ſolution is more certain in ſtrength than any tincture that can be drawn from the root directly. For, as the purgative virtue of jalap reſides in its reſin, and as all jalap appears from experiment not to be equally reſinous, ſome ſorts yielding five, and others not three, ounces of reſin from ſixteen; it follows, that although the root be always taken in the ſame proportion to the menſtruum, and the menſtruum always exactly of the ſame ſtrength, it may, nevertheleſs, according to the degree of goodneſs of the jalap, be impregnated with different quantities of reſin, and conſequently prove different in degree of efficacy. Though this objection againſt the tincture does not reach ſo far as ſome ſeem to ſuppoſe, it certainly behoves the apothecary to be careful in the choice of the root. The inferior ſorts may be employed for making *reſina jalappæ*, which they yield in as great perfection, though not in ſo large quantity, as the beſt. Newmann thinks even the worm-eaten jalap as good for that purpoſe as any other.

TINCTURA e KINO.

Edin.

Tincture of gum kino.

Take of

Gum kino, two ounces;

Proof-

Proof-ſpirit, a pound and an half.
Digeſt eight days, and ſtrain.

The ſubſtance called *gum kino* ſeems to be really a gum-reſin; on which account proof-ſpirit is the moſt proper menſtruum. This preparation muſt therefore poſſeſs the virtues of the ſubſtance: and it is perhaps one of the beſt forms under which it can be exhibited in obſtinate diarrhœas, and in caſes of lienteria: but in hemorrhagies, it is in general proper to exhibit it either in ſubſtance or diffuſed; yet we cannot help thinking that the want of this tincture is an omiſſion in the London pharmacopœia.

TINCTURA LAVENDULÆ COMPOSITA.

Lond.

Compound tincture of lavender.

Take of
Spirit of lavender, three pints;
——— Roſemary, one pint;
Cinnamon, bruiſed,
Nutmegs, bruiſed, of each half an ounce;
Red ſaunders, one ounce.
Digeſt for ten days, and ſtrain.

SPIRITUS LAVENDULÆ COMPOSITUS.

Edinb.

Compound ſpirit of lavender.

Take of
Simple ſpirit of lavender, three pounds;
Simple ſpirit of roſemary, one pound;
Cinnamon, one ounce;
Cloves, two drams;
Nutmeg, half an ounce;
Red ſaunders, three drams.
Macerate ſeven days, and ſtrain.

These two compoſitions, altho' varying a little from each other, both with reſpect to their ingredients and names, may yet be conſidered as preciſely the ſame. Although the London college, in the preſent edition of their pharmacopœia, have made many uſeful alterations with reſpect to names, yet the propriety of the change here adopted may perhaps be doubted: For it cannot with juſtice be ſtyled a tincture of lavender, when the diſtilled ſpirit of that plant is employed only as a menſtruum. If, therefore, it ſeemed neceſſary to refer it to the head of tinctures, it ought to have been denominated from the cinnamon or nutmegs; but ſince the activity of this article very much depends on the ſpirit of lavender, the old name is in our opinion juſtly preferable to the new one.

The red ſaunders is of no farther uſe in theſe compoſitions than as a colouring ingredient. If a yellow ſpirit was liked, the yellow ſaunders would be an excellent article, as it not only communicates a fine colour, but likewiſe a conſiderable ſhare of medicinal virtue. A ſpirit diſtilled from the flowers of lavender and ſage, in due proportion, and digeſted in the cold for a little time with ſome cinnamon, nutmegs, and yellow ſaunders, proves a very elegant and grateful one. Where eſſential oils are employed, particular care muſt be had in the choice of them; for on their goodneſs that of the medicine depends. The digeſtion of the ſpirit with the ſpices, &c. ſhould be performed without heat, otherwiſe the flavour of the medicine will be injured.

Theſe ſpirits are grateful reviving cordials: though conſiderably more ſimple, they are not leſs elegant or valuable, than many other more elaborate preparations. This medicine has long been held in great eſteem, under the name of Palsy

DROPS,

DROPS, in all kinds of languors, weakness of the nerves, and decays of age. It may be conveniently taken upon sugar, from ten to eighty or a hundred drops.

TINCTURA MOSCHI.

Edin.

Tincture of musk.

Take of
- Musk, two drams;
- Rectified spirit of wine, one pound.

Digest for ten days, and strain.

RECTIFIED spirit is the most complete menstruum for musk; but in this form it is often impossible to give such a quantity of the musk as is necessary for our purpose; and hence this article is more frequently employed under the form of julep or bolus.

TINCTURA MYRRHÆ.

Lond.

Tincture of myrrh.

Take of
- Myrrh, bruised, three ounces;
- Proof-spirit of wine, a pint and an half;
- Rectified spirit of wine, half a pint.

Digest with a gentle heat for eight days, and strain.

TINCTURA MYRRHÆ.

Edin.

Tincture of myrrh.

Take of
- Myrrh, three ounces;
- Proof-spirit, two pounds and a half.

After digestion for ten days, strain off the tincture.

THE pharmaceutical writers in general have been of opinion, that no good tincture can be drawn from myrrh by spirit of wine alone, without the assistance of fixed alkaline salts. But it appears from proper experiments, that these salts only heighten the colour of the tincture, without enabling the menstruum to dissolve any more than it would by itself. Rectified spirit extracts, without any addition, all that part of the myrrh in which its peculiar smell and taste reside, viz. the resin: and proof-spirit dissolves almost the whole of the drug, except its impurities: hence the combination of these two directed by the London college, is perhaps preferable to either by itself.

Tincture of myrrh is recommended internally for warming the habit, attenuating viscid juices, strengthening the solids, opening obstructions, particularly those of the uterine vessels, and resisting putrefaction. Boerhaave greatly esteems it in all languid cases, proceeding from simple inactivity; in those female disorders which are occasioned by an aqueous, mucous, sluggish indisposition of the humours, and a relaxation of the vessels; in the fluor albus, and all diseases arising from a like cause. The dose is from fifteen drops to forty or more. The medicine may doubtless be given in these cases to advantage; though with us, it is more commonly used externally, for cleansing foul ulcers, and promoting the exfoliation of carious bones.

TINCTURA OPII.

Lond.

Tincture of opium.

Take of
- Hard purified opium, powdered, ten drams,
- Proof-spirit of wine, one pint.

Digest for ten days, and strain.

TINCTURA

TINCTURA THEBAICA, vulgo LAUDANUM LIQUIDUM.

Edin.

Tincture of opium, commonly called *liquid laudanum.*

Take of
- Opium, two ounces;
- Spirituous cinnamon-water, one pound and a half.

Digeſt four days, and ſtrain off the tincture.

These are very elegant liquid opiates, the menſtruum in the laſt diſſolves nearly the whole ſubſtance of the opium, and effectually covers its ill flavour. It were to be wiſhed that the ſhops were furniſhed with a liquid opiate, in which the proportion of menſtruum was ſtill much larger, ſo as to admit of the doſe being determined by weight or meaſure; the method by drops ſeeming too precarious for a medicine of ſo powerful a kind. The following preparation is contrived with this view.

Take of
- Thebaic extract, half a dram;
- Highly rectified ſpirit of wine, called *alcohol*, ten ounces;
- Simple cinnamon-water, twenty ounces.

Digeſt them together until the opium be diſſolved, and then filtre the ſolution through paper.

This preparation is apprehended to be free from all the inconveniences attending the common opiate tinctures. The menſtruum diſſolves the whole of the opium except the impurities, and conſequently the tincture is not liable to any uncertainty in point of ſtrength. The doſe may be aſcertained to the greateſt exactneſs: one grain of opium is contained in one ounce by meaſure, which is equal nearly to ſeven drams by weight. Neither the tinctures in wine nor proof-ſpirit are ſo well adapted for keeping as could be wiſhed: in long ſtanding, a part of the opium is gradually thrown off from both, and conſequently the tinctures become gradually weaker: the part which thus ſeparates, amounts ſometimes, it is ſaid, to near one-fourth of the quantity of opium at firſt diſſolved: it floats on the ſurface of the vinous tincture, and in the ſpirituous ſinks to the bottom. In the preparation here recommended, it has not been obſerved that any ſeparation happens.

Inſtead of the cinnamon-water, pure water may be employed in the mixture; and where aromatic additions are wanted, either with a medicinal intention, or for covering the ill ſmell of the opium, any proper tincture or diſtilled water may be extemporaneouſly joined. Saffron, an addition once employed by the Edinburgh College, has been looked upon as a corrector of opium; but the qualities it was ſuppoſed to correct are merely imaginary: nor indeed can that article be of much importance with any intention in the ſmall quantity that enters a doſe of the tincture; a grain of opium being accompanied with only half a grain of ſaffron.

A preparation in ſome reſpects ſimilar to that here recommended, was introduced into the Edinburgh pharmacopœia publiſhed in 1774, under the title of *Tinctura meconii.* Each ounce of this tincture contained four grains of opium; and it was propoſed, that the doſes of it ſhould be meaſured, not by drops, but by weight: But as modern phyſicians are much more bold in giving opium than their predeceſſors, ſuch a ſcrupulous accuracy in the doſe is not thought at all neceſſary: And it is not probable that any dangerous conſequence will ever

arise,

arise, merely from a difference in the size of drops. This, however, might be the case, were the tinctura thebaica is by accident taken for the tinctura meconii. To such mistakes, however, it was feared that the analogy of the articles, as well as the caution necessary with respect to both, might lead; and it was upon the whole reckoned safer to have but one liquid laudanum only. It is, however, much to be regretted, that the liquid laudanum of the London and Edinburgh colleges, which by the former is now styled *Tinctura opii*, by the latter *Tinctura thebaica*, should differ so much from each other in point of strength.

TINCTURA OPII CAMPHORATA.

Lond.

Camphorated tincture of opium.

Take of
- Hard purified opium,
- Flowers of Benzoine, of each one dram;
- Camphor, two scruples;
- Essential oil of aniseed, one dram;
- Proof-spirit of wine, two pints.

Digest for three days.

ELIXIR PAREGORICUM.

Edin.

Paregoric elixir.

Take of
- Flowers of benzoine,
- English saffron, of each three drams;
- Opium, two drams;
- Essential oil of aniseeds, half a dram;
- Vinous spirit of sal ammoniac, sixteen ounces.

Digest for four days in a close vessel, and strain.

These two, though differing not merely in name, may yet be considered as agreeing very nearly in their nature.

The most material differences in the last formula from the first are the substitution of the vinous spirit of sal ammoniac to the proof-spirit of wine, and a larger proportion of opium; the vinous spirit of sal ammoniac is not only, perhaps, a more powerful menstruum, but in most instances coincides with the virtues of the preparation; but as the opium is the ingredient on which we place the principal dependance, so its proportion is increased, in order that we may give it in such a dose as that the acrimony of the menstruum shall not prove hurtful to the stomach.

The London formula is taken from Le Mort, with the omission of three unnecessary ingredients, honey, liquorice, and alkaline salt. It was originally prescribed under the title of Elixir asthmaticum, which it does not ill deserve. It contributes to allay the tickling which provokes frequent coughing; and at the same time is supposed to open the breast, and give greater liberty of breathing: the opium procures (as it does by itself) a temporary relief from the symptoms; whilst the other ingredients tend to remove the cause, and prevent their return. It is given to children against the chincough, &c. from five drops to twenty: to adults, from twenty to an hundred. In the London formula, half an ounce by measure contains about a grain of opium; but in the Edinburgh formula, the proportion of opium is larger.

TINCTURA RHABARBARI.

Lond

Tincture of rhubarb.

Take of
- Rhubarb, sliced, two ounces;

Lesser

Leſſer cardamom ſeeds, huſked and bruiſed, half an ounce;
Saffron, two drams;
Proof-ſpirit of wine, two pints.
Digeſt for eight days, and ſtrain.

TINCTURA RHEI.

Edin.

Tincture of rhubarb.

Take of
Rhubarb, three ounces;
Leſſer cardamom ſeeds, half an ounce;
Proof-ſpirit, two pounds and a half.
Digeſt for ſeven days, and ſtrain.

TINCTURA RHABARBARI COMPOSITA.

Lond.

Compound tincture of rhubarb.

Take of
Rhubarb ſliced, two ounces;
Ginger, powdered,
Saffron, each two drams;
Liquorice-root, bruiſed, half an ounce;
Diſtilled water, one pint;
Proof-ſpirit of wine, twelve ounces.
Digeſt for fourteen days, and ſtrain.

TINCTURA RHEI AMARA.

Edin.

Bitter tincture of rhubarb.

Take of
Rhubarb, two ounces;
Gentian-root, half an ounce;
Virginian ſnake-root, one dram;
Proof-ſpirit, two pounds and a half.
Digeſt for ſeven days, and then ſtrain the tincture.

TINCTURA RHEI DULCIS.

Edin.

Sweet tincture of rhubarb.

It is made by adding to two pounds and a half of the ſtrained tincture of rhubarb, four ounces of ſugar-candy.

The laſt of theſe preparations is improved from the former editions. Two ounces of liquorice and one of raiſins are ſupplied by an increaſe of the ſugar-candy

All the foregoing tinctures of rhubarb are deſigned as ſtomachics and corroborants, as well as purgatives: ſpirituous liquors excellently extract thoſe parts of the rhubarb in which the two firſt qualities reſide, and the additional ingredients conſiderably promote their efficacy. In weakneſs of the ſtomach, indigeſtion, laxity of the inteſtines, diarrhœas, colicky and other ſimilar complaints, theſe medicines are frequently of great ſervice: the ſecond is alſo, in many caſes, an uſeful addition to the Peruvian bark, in the cure of intermittents, particularly in cachectic habits, where the viſcera are obſtructed; with theſe intentions, a ſpoonful or two may be taken for a doſe, and occaſionally repeated.

ELIXIR ex ALOE et RHEO, vulgo SACRUM.

Edin.

Elixir of aloes and rhubarb, commonly called *ſacred elixir.*

Take of
Rhubarb, cut ſmall, ten drams;
Socotorine aloes, in powder, ſix drams;
Leſſer cardamom ſeeds, half an ounce;
Proof-ſpirit, two pounds and a half.
Digeſt for ſeven days, and then ſtrain the elixir.

This preparation is very much employed as a warming cordial purge, and for the general purpoſes of aloetics; with which, however, it combines the medical properties of rhubarb.

TINC-

TINCTURA SABINÆ COMPOSITA.

Lond.

Compound tincture of savin.

Take of
Extract of savin, one ounce,
Tincture of castor, one pint;
——— myrrh, half a pint.
Digest till the extract of savin be dissolved, and then strain.

This preparation had a place in the last edition of our pharmacopœia, under the title of *Elixir myrrhæ compositum.*

This preparation is improved from one described in some former dispensatories under the name of Elixir uterinum. It is a medicine of great importance in uterine obstructions, and in hypochondriacal cases; though, possibly, means might be contrived of superadding more effectually the virtues of savin to a tincture of myrrh and castor. It may be given from five drops to twenty or thirty, or more, in penny-royal water, or any other suitable vehicle.

TINCTURA SCILLÆ.

Lond.

Tincture of squill.

Take of
Squills, fresh dried, four ounces;
Proof-spirit of wine, two pints.
Digest for eight days, and pour off the liquor.

For extracting the virtues of squills, the menstruum which has hitherto been almost solely employed is vinegar. There are, however, cases in which ardent spirit may be more proper; and by the menstruum here directed its virtues are fully extracted. Hence it is with propriety that the London college have introduced this form, as well as the vinegar and oxymel. But, in general, the purposes to be answered by squills may be better obtained by employing it in substance than in any other form.

TINCTURA SATURNIA, vulgo ANTIPHTHISICA.

Edinb.

Antiphthisical tincture.

Take of
Sugar of lead, an ounce and a half;
Vitriol of iron, one ounce;
Rectified spirit of wine, one pound.
Let a tincture be extracted without heat.

The reducing of the salts *separately* into powder, and performing the digestion *without heat*, are very necessary circumstances: for if the ingredients be attempted to be pulverized together, they will grow soft and almost liquid; and if heat be made use of, scarce any tincture will be obtained.

This tincture is sometimes given from twenty to thirty drops, for restraining immoderate secretions, particularly the colliquative sweats attending hectic fevers and phthisical disorders; whence the name *antiphthisical* tincture. It is undoubtedly a medicine of great efficacy in these cases, but too dangerous to be rashly ventured on. Some have supposed, that it does not contain any of the sugar of lead: but experiments made for that purpose have shown the contrary.

We must, however, consider the above preparation as very unscientific. Both the acetous and vitriolic acid have a greater attraction for iron than for lead: and though the vitriolic be capable of discharging the acetous acid, yet it makes not only in its entire state a less perfect union with lead than the acetous acid, but it is now also combined with iron, for which it has a greater attraction, and

and can therefore only act on the salt of lead in proportion as it is superabundant in the salt of copperas; but in proportion as the vitriolic disengages the acetous acid from the lead, the last, in its turn, will attach itself to the iron. Upon the whole, it is difficult to ascertain the precise nature of this preparation; it seems always, however, to contain a quantity of lead in a saline state, sufficient to expunge it from prudent practice: or, at least, if in these cases in which it has hitherto been employed, lead be thought necessary, the sal plumbi may with more safety and advantage be given in its solid state, particularly as combined with opium: And it is probably on this account that the present formula has now no place in the London pharmacopœia.

TINCTURA SENNÆ.

Lond.

Tincture of senna.

Take of
- Senna, one pound;
- Caraway-seeds, bruised, one ounce and an half;
- Raisins, stoned, sixteen ounces;
- Lesser cardamom-seeds, husked and bruised, half an ounce;
- Proof-spirit of wine, one gallon.

Digest for fourteen days, and strain.

TINCTURA SENNÆ COMPOSITA, vulgo ELIXIR SALUTIS.

Edinb.

Compound tincture of senna, commonly called *Elixir of health.*

Take of
- Senna leaves, two ounces;
- Jalap root, one ounce;
- Coriander seeds, half an ounce;
- Proof spirit, two pounds and a half.

Digest for seven days, and to the strained liquor add four ounces of sugar-candy.

Both these tinctures are useful carminatives and cathartics, especially to those who have accustomed themselves to the use of spirituous liquors; they oftentimes relieve flatulent and colicky complaints, where the common cordials have little effect: the dose is from one to two ounces. Several preparations of this kind have been offered to the public under the name of Daffy's elixir: the two above are equal to any, and superior to most of them The last in particular is a very useful addition to the castor oil, in order to take off its mawkish taste; and as coinciding with the virtues of the oil, it is therefore much preferable to brandy, shrub, and such like liquors, which otherwise are often found necessary to make the oil sit upon the stomach.

TINCTURA SERPENTARIÆ.

Lond.

Tincture of snake-root.

Take of
- Virginian snake-root, three ounces;
- Proof-spirit of wine, two pints.

Digest for eight days, and strain.

Edinb.

Take of
- Virginian snake-root, two ounces;
- Cochineal, one dram;
- Proof-spirit, two pounds and a half.

Digest in a gentle heat for four days, and then strain the tincture.

The tincture of snake-root was in a former pharmacopœia directed to be prepared with the tinctura salis tartari, which being now expunged, it was proposed to the college to employ rectified spirit; but as the heat of this spirit prevents the medicine from being taken in so large a dose as it

 might

might otherwiſe be, a weaker ſpirit was made choice of. The tincture made in this menſtruum, which extracts the whole virtues of the root, may be taken to the quantity of a ſpoonful or more every five or ſix hours; and to this extent it often operates as an uſeful diaphoretic.

TINCTURA VALERIANÆ.

Lond.

Tincture of valerian.

Take of
- The root of wild valerian, in coarſe powder, four ounces;
- Proof-ſpirit of wine, two pints.

Digeſt with a gentle heat for eight days, and ſtrain.

The valerian root ought to be reduced to a pretty fine powder, otherwiſe the ſpirit will not ſufficiently extract its virtues. The tincture proves of a deep colour, and conſiderably ſtrong of the valerian; tho' it has not been found to anſwer ſo well in the cure of epileptic diſorders as the root in ſubſtance, exhibited in the form of powder or bolus. The doſe of the tincture is, from half a ſpoonful to a ſpoonful or more two or three times a-day.

TINCTURA VALERIANÆ VOLATILIS.

Lond.

Volatile tincture of valerian.

Take of
- The root of wild valerian, four ounces;
- Compound ſpirit of ammonia, two pints.

Digeſt for eight days, and ſtrain.

Edin.

Take of
- Wild valerian root, two ounces;
- Vinous ſpirit of ſal ammoniac, one pound.

Macerate for ſix days in a cloſe veſſel, and ſtrain.

Both the compound and vinous ſpirit of ſal ammoniac are here excellent menſtrua, and at the ſame time conſiderably promote the virtues of the valerian, which in ſome caſes wants an aſſiſtance of this kind. The doſe may be a tea-ſpoonful or two.

TINCTURA VERATRI, ſive HELLEBORI ALBI.

Edinb.

Tincture of veratrum, or *white hellebore.*

Take of
- White hellebore root, eight ounces;
- Proof-ſpirit, two pounds and a half.

Digeſt them together for ten days, and filtre the tincture through paper.

This tincture is ſometimes uſed for acuating cathartics, &c. and as an emetic in apoplectic and maniacal diſorders. It may likewiſe be ſo managed, as to prove a powerful alterative and deobſtruent, in caſes where milder remedies have little effect. But a great deal of caution is requiſite in its uſe: the doſe, at firſt, ought to be only a few drops; if conſiderable, it proves violently emetic or cathartic.

ELIXIR VITRIOLI ACIDUM.

Edinb.

Acid elixir of vitriol.

Take of
- Rectified ſpirit of wine, two pounds;

Drop into it by little and little ſix ounces of vitriolic acid; digeſt the mixture with a very gentle heat in a cloſe veſſel for three days, and then add of

Cinnamon, an ounce and a half;
Ginger, one ounce.

Digeſt again in a cloſe veſſel for ſix days, and then filtre the tincture through

through paper placed in a glafs funnel.

The intention in this procefs is, to obtain a tincture of aromatic vegetables, in fpirit of wine, combined with a confiderable proportion of vitriolic acid. When the tincture is firft drawn with vinous fpirits, and the acid added afterwards, the acid precipitates great part of what the fpirit had before taken up: and on the other hand, when the acid is mixed with the fpirit immediately before the extraction, it prevents the diffolution of all that it would have precipitated by the former way of treatment: by previoufly uniting the acid and the vinous fpirit together by digeftion, the inconvenience is fomewhat leffened.

This is a valuable medicine in weaknefs and relaxations of the ftomach and decays of conftitution; particularly in thofe which proceed from irregularities, which are accompanied with flow febrile fymptoms, or which follow the fuppreffion of intermittents. It frequently fucceeds after bitters and aromatics by themfelves had availed nothing; and, indeed, great part of its virtues depend on the vitriolic acid; which, barely diluted with water, has, in thefe cafes, where the ftomach could bear the acidity, produced happy effects.

Fuller relates (in his *Medicina Gymnaftica*) that he was recovered by Mynficht's elixir, from an extreme decay of conftitution, and continual retchings to vomit. It may be given from ten to thirty or forty drops or more, according to the quantity of acid, twice or thrice a-day, at fuch times as the ftomach is moft empty. It is very ufefully conjoined with the bark, both as covering its difagreeable tafte and coinciding with its virtues.

ELIXIR VITRIOLI DULCE.

Edinb.

Sweet elixir of vitriol.

This is made of the fame aromatics, and in the fame manner as the tinctura aromatica; except that, in place of the vinous fpirit, the dulcified fpirit of vitriol is employed.

This is defigned for perfons whofe ftomachs are too weak to bear the foregoing acid elixir; to the tafte, it is gratefully aromatic, without any perceptible acidity. The dulcified fpirit of vitriol, here directed, occafions little or no precipitation upon adding it to the tincture.

A medicine of this kind was formerly in great efteem under the title of *Vigani's volatile elixir of vitriol*; the compofition of which was firft communicated to the public in the *Pharmacopœia reformata*. It is prepared by digefting fome volatile fpirits of vitriol upon a fmall quantity of mint leaves curiouffy dried, till the liquor has acquired a fine green colour. If the fpirit, as it frequently does, partakes too much of the acid, this colour will not fucceed: in fuch cafe, it fhould be rectified from a little fixed alkaline falt.

SPIRITUS VINOSUS CAMPHORATUS.

Edinb

Camphorated fpirit of wine.

Take of

Camphor, one ounce;

Rectified fpirit of wine, one pound.

Mix them together, that the camphor may be diffolved.

It may alfo be made with a double, triple, &c. proportion of camphor.

This folution of camphor is em-

ployed chiefly for external uses, against rheumatic pains, paralytic numbnesses, inflammations, for discussing tumors, preventing gangrenes, or restraining their progress. It is too pungent to be exhibited internally, even when diluted, nor does the dilution succeed well; for on the admixture of aqueous liquors, the camphor gradually separates and runs together into little masses.

Hoffman, Rothen, and others, mention a camphorated spirit not subject to this inconvenience. It is prepared by grinding the camphor with somewhat more than an equal weight of fixed alkaline salt, then adding a proper quantity of proof-spirit, and drawing off one half of it by distillation. This spirit was proposed to be received into our pharmacopœias, under the title of *Spiritus camphoræ tartarizatus*. But upon trial, it did not answer expectation: some of the camphor rises with the spirit in distillation, though but a small quantity; whence, mixed with a large portion of water, it does not sensibly render it turbid; but in a proper quantity, it exhibits the same appearance as the more common camphorated spirit: it did not appear, that spirit distilled from camphor, with or without the alkaline salt, differed at all in this respect.

The most convenient method of uniting camphor with aqueous liquors, for internal use, seems to be by the mediation of almonds, or of mucilages; triturated with these, it readily mingles with water into the form of an emulsion, at the same time that its pungency is considerably abated. It may also be commodiously exhibited in the form of an oily draught, expressed oils totally dissolving it.

LINIMENTUM ANODYNUM, vulgo BALSAMUM ANODYNUM.

Edinb.

The anodyne liniment, commonly called *Anodyne balsam.*

Take of
- Opium, one ounce;
- White Castile soap, four ounces;
- Camphor, two ounces;
- Essential oil of rosemary, half an ounce;
- Rectified spirit of wine, two pounds.

Digest the opium and soap in the spirit for three days; then to the strained liquor add the camphor and oil, diligently shaking the vessel.

The several ingredients in this formula are exceedingly well suited for the purposes expressed in the title of this preparation; the anodyne balsam has accordingly been used with much success to allay pains in strained limbs, and such like topical affections.

LINIMENTUM SAPONACEUM vulgo BALSAMUM SAPONACEUM.

Edinb.

Saponaceous balsam or liniment.

This is made in the same manner and of the same ingredients as the anodyne balsam, only omitting the opium.

It is intended as a simplification and improvement of what had formerly the name of *Opodeldoc*, and is employed with the same intentions as the two preceding.

TINCTURA ANTIMONII.

Ross.

Tincture of antimony.

Take of
- Antimony, in powder, half a pound;

salt

Salt of tartar, one pound;
Rectified ſpirit of wine, three pints.

Mix the antimony with the ſalt of tartar, and inject them by little and little into a crucible placed in a ſtrong fire. Let the mixture melt thin, and continue in this ſtate for half an hour; after which it is to be poured out into a hot and dry iron mortar. Powder the maſs while hot, put it into a heated matraſs, and pour the ſpirit upon it. Digeſt them together for three days, and then ſtrain the tincture.

In this proceſs, the alkaline ſalt unites with the ſulphur of the antimony into a hepar; which communicates to the ſpirit a tincture ſimilar to the tinctura ſulphuris. This antimonial tincture is ſuppoſed to contain likewiſe ſome of the reguline parts of the mineral, and is ſaid to have ſometimes provoked a puke when taken on an empty ſtomach, even in a ſmall doſe. It ſtands recommended in doſes from ten to ſixty drops or more, as a deobſtruent, promoter of urine, and purifier of the blood. But there is probably no purpoſe to be anſwered by it, which may not be more effectually obtained by other antimonial preparations, particularly the vinum e tartaro antimoniali.

TINCTURA COLOCYNTHIDIS.

Suec.

Tincture of colocynth.

Take of
Colocynth, cut ſmall, and freed from the ſeeds, one ounce;
Aniſeed, one dram;
Proof-ſpirit, fourteen ounces.

Macerate for four days, and ſtrain through paper.

In this tincture we have the active purgative power of the colocynth. And although it be ſeldom uſed as a cathartic by itſelf, yet even in ſmall quantity it may be advantageouſly employed to briſken the operation of others.

TINCTURA CUPRI VOLATILIS.

Gen.

Volatile tincture of copper.

Take of
Filings of copper, one dram;
Spirit of ſal ammoniac, an ounce and a half.

Mix them, and keep them in a veſſel cloſely ſtopt, which is to be frequently agitated till the liquor becomes of a beautiful violet colour.

In this formula the copper is brought to a ſaline ſtate by means of the volatile alkali. It may therefore be conſidered as very analogous to the cuprum ammoniacum. And where recourſe is had to it in practice, it is employed with the ſame intentions.

TINCTURA QUASSIÆ.

Suec.

Tincture of quaſſia.

Take of
Quaſſia, bruiſed, two ounces;
Proof-ſpirit, two pounds and an half.

Digeſt for three days, and then ſtrain through paper.

By proof-ſpirit the medical properties, as well as the ſenſible qualities of the quaſſia, are readily extracted. And under this form it may be advantageouſly employed for anſwering different purpoſes in medicine.

TINCTURA LACCÆ.

Suec.

Tincture of lac.

Take of
Gum lac, powdered, one ounce;

Myrrh, three drams;
Spirit of ſcurvy-graſs, a pint and an half.

Digeſt in a ſand heat for ſix days; after which, ſtrain off the tincture for uſe.

This tincture is principally employed for ſtrengthening the gums, and in bleedings and ſcorbutic exulcerations of them: it may be fitted for uſe with theſe intentions, by mixing it with honey of roſes, or the like. Some recommend it internally againſt ſcorbutic complaints, and as a corroborant in gleets, female weakneſſes, &c. Its warmth, pungency, and manifeſtly aſtringent bitteriſh taſte, point out its virtues in theſe caſes to be conſiderable, tho' common practice among us has not yet received it.

TINCTURA NUCIS VOMICÆ.

Roſs.

Tincture of nux vomica.

Take of
Nux vomica, an ounce and a half;
Proof-ſpirit, two pounds.
Digeſt for ſome days, and then ſtrain it.

The nux vomica, a very active vegetable, has of late, as we have already had occaſion to obſerve, been introduced into practice as taken internally, for the cure of intermittents and of contagious dyſentery. In theſe affections it may be employed under the form of tincture as well as in ſubſtance; and in this way it moſt readily admits of being combined with other articles, either as adjuvantia or corrigentia.

TINCTURA SUCCINI.

Sueç.

Tincture of amber.

Take of
Yellow amber, pounded, one ounce;
Vitriolic æther, four ounces.
Digeſt for three days in a veſſel accurately cloſed, frequently ſhaking the veſſel, and after this ſtrain through paper.

The tincture of amber was formerly prepared with rectified ſpirit of wine; but the menſtruum here directed gives a more complete ſolution, and forms a more elegant and active tincture. It poſſeſſes the whole virtues of the concrete; and although it has at preſent no place in our Pharmacopœia, yet it is perhaps to be conſidered as one of the moſt valuable preparations of amber. It has been recommended in a variety of affections, particularly thoſe of the nervous kind, as hyſterical and epileptic complaints. It may be taken from a few drops to the extent of a tea-ſpoonful in a glaſs of wine or any ſimilar vehicle.

CHAP. XXII.

MISTURÆ.

MIXTURES.

MISTURA CAMPHORATA.
Lond.
Camphorated mixture.

Take of
- Camphor, one dram.
- Rectified ſpirit of wine, ten drops;
- Double-refined ſugar, half an ounce;
- Boiling diſtilled water, one pint.

Rub the camphor firſt with the ſpirit of wine, then with the ſugar; laſtly, add the water by degrees, and ſtrain the mixture.

While camphor is often exhibited in a ſolid ſtate, it is frequently alſo advantageous to employ it as diffuſed in watery fluids. And with this intention the preſent formula is perhaps one of the moſt ſimple, the union being affected merely by the aid of a ſmall quantity of ſpirit of wine and a little ſugar. But perhaps the more common form of emulſion in which the union is effected, by triturating the camphor with a few almonds, is not to be conſidered as inferior to this. For the unctuous quality of the almonds ſerves to a conſiderable degree to cover the pungency of the camphor without diminiſhing its activity. Camphor under the preſent form as well as that of emulſion, is very often uſeful in fevers, taken to the extent of a table-ſpoonful every three or four hours.

MISTURA CRETACEA.
Lond.
Chalk mixture.

Take of
- Prepared chalk, one ounce;
- Double-refined ſugar, ſix drams;
- Gum Arabic, powdered, two ounces;
- Diſtilled water, two pints.

Mix them.

POTIO CRETACEA.
Edinb.
Chalk drink.

Take of
- Prepared chalk, one ounce;
- Pureſt refined ſugar, half an ounce;
- Mucilage of gum Arabic, two ounces.

Rub them together, and add by degrees.
- Water, two pounds and an half;
- Spirituous cinnamon water, two ounces.

These two preparations agree pretty much both in their name and in their nature. But of the two formulæ that of the Edinburgh college

lege is most agreeable to the palate, from containing a proportion of cinnamon water, by which the disagreeable taste of the chalk is taken off.

In the former edition of the Edinburgh pharmacopœia, a preparation of this kind stood among the decoctions, and the chalk was directed to be boiled with the water and gum: by the present formula, the chalk is much more completely suspended by the mucilage and sugar; which last gives also to the mixture an agreeable taste It is proper to employ the finest sugar, as the redundant acid in the coarser kinds might form with the chalk a kind of phosphoric salt. It would perhaps have been more proper to have added an aromatic, by suspending the entire powder of cinnamon, or its oil, by means of the mucilage and sugar: The method here directed is, however, less exceptionable in this than in many other preparations, as the precipitated matter of the spirituous water will probably be invisicated in the saccharine and mucilaginous matter. This is a very elegant form of exhibiting chalk, and is an useful remedy in diseases arising from, or accompanied with, acidity in the primæ viæ. It is frequently employed in diarrhœa proceeding from that cause. The mucilage not only serves to keep the chalk uniformly diffused, but also improves its virtues by sheathing the internal surface of the intestines. The dose of this medicine requires no nicety. It may be taken to the extent of a pound or two in the course of a day.

MISTURA MOSCHATA.

Lond.

Musk-mixture.

Take of
- Musk, two scruples;
- Gum Arabic, powdered,
- Double-refined sugar, of each one dram;
- Rose-water, six ounces by measure.

Rub the musk first with the sugar, then with the gum, and add the rose-water by degrees.

This had formerly the name of *Julepum e moscho*, and was intended as an improvement upon the *Hysteric julep with musk* of Bates. Orange-flower water is directed by that author; and indeed this more perfectly coincides with the musk than rose-water: but as the former is difficultly procurable in perfection, the latter is here preferred. The julep appears turbid at first: on standing a little time, it deposites a brown powder, and becomes clear, but at the same time loses great part of its virtue. This inconvenience may be prevented by thoroughly grinding the musk with gum Arabic before the addition of the water: by means of the gum, the whole substance of the musk is made to remain suspended in the water. Volatile spirits are in many cases an useful addition to musk, and likewise enable water to keep somewhat more of the musk dissolved than it would otherwise retain.

LAC AMYGDALÆ.

Lond.

Almond-milk.

Take of
- Sweet almonds, one ounce and an half;
- Double-refined sugar, half an ounce;
- Distilled water, two pints.

Beat the almonds with the sugar; then, rubbing them together, add by degrees the water, and strain the liquor.

EMUL-

EMULSII COMMUNIS.

Edin.

Common emulsion.

Take of
Sweet almonds, one ounce;
Bitter almonds, one dram;
Common water, two pounds and a half.

Beat the blanched almonds in a marble mortar, and gradually pour on them the common water, working the whole well together; then strain off the liquor.

EMULSIO ARABICA.

Edin.

Arabic emulsion.

This is made in the same manner as the preceding; only adding, whilst beating the almonds,
Of mucilage of gum Arabic, two ounces.

All these may be considered as possessing nearly the same qualities. But of the three the last is the most powerful demulcent.

Great care should be taken, that the almonds be not become rancid by keeping; which will not only render the emulsion extremely unpleasant, a circumstance of great consequence in a medicine that requires to be taken in large quantities, but likewise give it injurious qualities little expected from preparations of this class. The addition of the bitter almonds now ordered by the Edinburgh college in preparing these emulsions, may perhaps preserve them in some degree from suffering the above changes; but it is much more useful as giving the emulsion an agreable flavour. And although the substance of bitter almonds be of a deliterious nature, yet nothing is to be apprehended from the quantity here employed.

These liquors are principally made use of for diluting and obtunding acrimonious humours; particularly in heat of urine and stranguaries arising either from a natural sharpness of the juices, from the operation of cantharides, or other irritating medicines; in these cases, they are to be drank frequently, to the quantity of half a pint or more at a time.

Some have ordered emulsions to be boiled, with a view to deprive them of some imaginary crudity; but by this process they quickly cease to be emulsions, the oil separating from the water, and floating distinctly upon the surface. Acids and vinous spirits produce a like decomposition. On standing also for some days, without addition, the oily matter separates and rises to the top, not in a pure form, but in that of a thick cream. These experiments prove the composition of the emulsions made from the oily seeds of kernels, and at the same time point out some cautions to be attended to in their preparation and use.

LAC AMMONIACI.

Lond.

Ammoniacum milk.

Take of
Ammoniacum, two drams;
Distilled water, half a pint.

Rub the gum-resin with the water, gradually poured on, until it becomes a milk.

In the same manner may be made a milk of asafœtida, and of the rest of the gum-resins.

The ammoniacum milk is employed for attenuating tough phlegm, and promoting expectoration, in humoural asthmas, coughs, and obstructions of the viscera. It may be given to the quantity of two spoonfuls twice a-day.

The lac asafœtidæ is employed in spasmodical, hysterical, and other nervous affections. And it is also not

not unfrequently uſed under the form of injection. It anſwers the ſame purpoſes as aſafœtida in ſubſtance.

SPIRITUS ÆTHERIS VITRIOLICI COMPOSITUS.

Lond.

Compound ſpirit of vitriolic æther.

Take of
- Spirit of vitriolic æther, two pounds;
- Oil of wine, three drams.

Mix them.

This is ſuppoſed to be, if not preciſely the ſame, at leaſt very nearly, the celebrated liquor *anodynus mineralis* of Hoffman: As we learn from his own writings, that the liquor which he thus denominated, was formed of dulcified ſpirit of vitriol and the aromatic oil which ariſes after it: But he does not tell us in what proportions theſe were combined. It has been highly extolled as an anodyne and antiſpaſmodic medicine; and with theſe intentions it is not unfrequently employed in practice.

SPIRITUS AMMONIÆ COMPOSITUS.

Lond.

Compound ſpirit of ammonia.

Take of
- Spirit of ammonia, two pints;
- Eſſential oil of lemon,
- ——————— nutmeg, of each two drams.

Mix them.

This differs almoſt only in name from the following.

SPIRITUS VOLATILIS AROMATICUS, vulgo SPIRITUS VOLATILIS OLEOSUS, et SPIRITUS SALINUS AROMATICUS.

Edinb.

Volatile aromatic ſpirit, commonly called *volatile oily ſpirit*, and *ſaline aromatic ſpirit.*

Take of
- Vinous ſpirit of ſal ammoniac, eight ounces;
- Diſtilled oil of roſemary, one dram and a half;
- Diſtilled oil of lemon-peel, one dram.

Mix them, that the oils may be diſſolved.

By the method here directed, the oils are as completely diſſolved as when diſtillation is employed.

Volatile ſalts, thus united with aromatics, are not only more agreeable in flavour, but likewiſe more acceptable to the ſtomach, and leſs acrimonious than in their pure ſtate. Both the foregoing compoſitions turn out excellent ones, provided the oils are good, and the diſtillation ſkilfully performed. The doſe is from five or ſix drops to ſixty or more.

Medicines of this kind might be prepared extemporaneouſly, by dropping any proper eſſential oil into the dulcified ſpirit of ſal ammoniac, which will readily diſſolve the oil without the aſſiſtance of diſtillation. But it is perhaps preferable that they ſhould be kept in the ſhops ready mixed.

SPIRITUS AMMONIÆ SUCCINATUS.

Lond.

Succinated ſpirit of ammonia.

Take of
- Alcohol, one ounce;
- Water of pure ammonia, four ounces, by meaſure;
- Rectified oil of amber, one ſcruple;
- Soap, ten grains.

Digeſt the ſoap and oil of amber in the alcohol till they be diſſolved; then add the water of pure ammonia, and mix them by ſhaking.

This

This compoſition is extremely penetrating, and has lately come into eſteem, particularly for ſmelling to in lowneſſes and faintings, under the name of *Eau de luce* It has been hitherto brought from France. It is not quite limpid, for the oil of amber diſſolves only imperfectly in the ſpirit: if the volatile ſpirit be not exceedingly ſtrong, ſcarcely any of the oil will be imbibed.

The *Eau de luce* is not only uſed with the view of making an impreſſion upon the noſe, but is taken internally in the ſame caſes. It has likewiſe of late been celebrated as a remedy for the bite of the rattle-ſnake, when uſed internally, and applied externally to the wounded part.

SPIRITUS CAMPHORATUS.

Lond.

Camphorated ſpirit.

Take of
- Camphor, four ounces;
- Rectified ſpirit of wine, two pints.

Mix them, ſo that the camphor may be diſſolved.

Of this we have already had occaſion to ſpeak in the preceding chapter under the title given to it by the Edinburgh college.

EMULSIO OLEOSA SIMPLEX.

Gen.

Simple oily emulſion.

Take of
- Almond oil, one ounce;
- Syrup of althea, an ounce and a half;
- Gum Arabic, half an ounce;
- Fountain water, ſix ounces.

Mix, and make an emulſion according to art.

EMULSIO OLEOSA VOLATILIS.

Gen.

Volatile oily emulſion.

Take of
- Almond oil, an ounce and a half;
- Syrup of althea, one ounce;
- Gum arabic, half an ounce;
- Volatile alkaline ſalt, one dram;
- Fountain water, ſeven ounces.

Mix them according to art.

Both theſe are elegant and convenient modes of exhibiting oil internally. And under theſe forms it is often advantageouſly employed in caſes of cough, hoarſeneſs, and ſimilar affections. By means of the alkali, a more intimate union of oil with water is obtained than can be had with the intermedium either of ſyrup or vegetable mucilage; and in ſome caſes, the alkali both contributes to anſwer the intention in view, and prevents the oil from exciting ſickneſs at ſtomach: But in other inſtances, the pungency which it imparts is diſagreeable to the patient and unfavourable to the diſeaſe. According to theſe circumſtances, therefore, where an oily mixture is to be employed, the practitioner will be determined in his choice to have recourſe either to the one or the other formula.

JULAPIUM ACIDUM.

Gen.

Acid julep.

Take of
- Weak vitriolic acid, three drams;
- Simple ſyrup, three ounces;
- Fountain water, two pounds.

Mix them.

In this ſtate, the vitriolic acid is ſufficiently diluted to be taken with eaſe in conſiderable doſes. And it may thus be advantageouſly employed in various affections; concerning which

which we have already had occaſion to make ſome remarks in the Materia Medica, and which are to be anſwered, either by its action on the ſtomach, or on the ſyſtem in general.

JULAPIUM ÆTHEREUM.

Gen.

Æther julep.

Take of
Pure vitriolic æther, two ſcruples;
Fountain water, ſix ounces;
Refined ſugar, half an ounce.
Mix them according to art.

Although it is in general proper that æther ſhould be diluted only when it is to be immediately uſed, yet it is ſometimes neceſſary that it ſhould be put into the hands of the patient in the ſtate in which it is to be taken. In ſuch inſtances the preſent formula is a very proper one; but the addition of a little mucilage tends both to cover the pungency of the æther in the mouth, and to retain it in a ſtate of mixture with the water.

JULAPIUM SUCCINATUM.

Gen.

Amber juleps.

Take of
Tincture of amber, two drams;
Refined ſugar, half an ounce;
Fountain water, ſix ounces.
Mix them according to art.

Under this form the tincture of amber is ſo far diluted and ſweetened, as to form an agreeable mixture; and in this manner it may often be advantageouſly employed for counteracting nervous affections, and anſwering thoſe other purpoſes for which we have already mentioned that this article is had recourſe to in practice.

MIXTURA SALINA.

Succ.

Saline mixture, or julep.

Take of
Fixed vegetable alkali, one ounce;
Fountain water, five ounces.
To this lixivium add,
Lemon juice, two ounces, or as much as is ſufficient to ſaturate the alkali;
Simple ſyrup, half an ounce.

This mixture is frequently preſcribed in febrile diſeaſes as a means of promoting a ſlight diſcharge by the ſurface: For where the ſkin is parched with great encreaſed heat, it generally operates as a gentle diaphoretic. It often alſo promotes a diſcharge by the kidney, and is not unfrequently employed to reſtrain vomiting. With theſe intentions it is in daily uſe among Britiſh practitioners, although it has no place in our pharmacopœias, from its being entirely an extemporaneous preſcription.

SOLUTIO MINERALIS ARSENICI.

Mineral ſolution of arſenic.

Take of
White arſenic, reduced to a ſubtile powder,
Fixed vegetable alkali, each ſixty-four grains;
Diſtilled water, half a pint.
Put it into a florentine flaſk, and let this be placed in a ſand heat, ſo that the water may boil gently till the arſenic be completely diſſolved; then add to the ſolution when cold half an ounce of ſpirit of lavender, and as much diſtilled water as to make the ſolution amount to a pint by meaſure, or fifteen ounces and an half by weight.

For the introduction of this remedy

medy we are indebted to Dr Fowler of Stafford. We have already had occaſion to mention it when treating of arſenic in the Materia Medica: and we then obſerved, that if it be not preciſely the ſame, it is at leaſt ſuppoſed to be very analogous to a remedy which has had a very extenſive ſale in ſome parts of England under the name of the *Taſteleſs ague drop;* and which has been employed with very great ſucceſs in the cure of obſtinate intermittents. But whether the preſent formula in any degree approaches to the taſteleſs ague drop or not, there can be no doubt, from the concurring teſtimony of many eminent practitioners, that it is equally ſucceſsful in combating intermittents. For this purpoſe it is given according to the age and other circumſtances of the patient in doſes from two to twenty drops, once, twice, or oftener in the courſe of the day: And its uſe has been found to be attended with remarkable ſucceſs, although with ſome patients even very ſmall doſes have been found to excite ſevere vomiting. Beſides diſtinctly marked intermittents, this ſolution has alſo been ſometimes ſucceſsful in obſtinate periodical headachs, and in cutaneous affections of the leprous kind, reſiſting every other mode of cure. And perhaps in every caſe where arſenic can be employed with ſafety or advantage internally, this preparation is preferable to any other with which we are yet acquainted.

CHAP. XXIII.

SYRUPI.

SYRUPS.

SYRUPS are ſaturated ſolutions of ſugar, made in water, or watery or vinous infuſions, or in juices. They were formerly conſidered as medicines of much greater importance than they are thought to be at preſent. Syrups and diſtilled waters were for ſome ages made uſe of as the great alteratives; inſomuch that the evacuation of any peccant humour was never attempted, till by a due courſe of theſe it had firſt been ſuppoſed to be regularly prepared for expulſion. Hence aroſe the exuberant collection of both, which we meet with in pharmacopœias, and like errors have prevailed in each. As multitudes of diſtilled waters have been compounded from materials unfit to give any virtue over the helm; ſo numbers of ſyrups have been prepared from ingredients, which in this form cannot be taken in ſufficient doſes to exert their virtues; for

two

two thirds of a syrup consist of sugar, and greatest part of the remaining third is an aqueous fluid.

Syrups are at present chiefly regarded as convenient vehicles for medicines of greater efficacy; and made use of for sweetening draughts and juleps, for reducing the lighter powders into boluses, pills, or electaries, and other similar purposes. Some likewise may not improperly be considered as medicines themselves; as those of saffron, buckthorn berries, and some others.

To the chapter on syrups the London college in their pharmacopœia have premised the following general observations.

In the making of syrups, where we have not directed either the weight of the sugar, or the manner in which it should be dissolved, this is to be the rule:

Take of

Double-refined sugar, twenty-nine ounces;

Any kind of liquor, one pint.

Dissolve the sugar in the liquor, in a water-bath; then set it aside for twenty-four hours; take off the scum, and pour off the syrup from the feces, if there be any.

The following are the general rules which have commonly been given with respect to the preparation of syrups.

I.

All the rules laid down for making decoctions are likewise to be observed in the decoctions for syrups. Vegetables, both for decoctions and infusions, ought to be dry, unless they are expresly ordered otherwise.

II.

In both the London and Edinburgh pharmacopœia, only the purest or double-refined sugar is allowed.

In the syrups prepared by boiling, it has been customary to perform the clarification with whites of eggs after the sugar had been dissolved in the decoction of the vegetable. This method is apparently injurious to the preparation; since not only the impurities of the sugar are thus discharged; but a considerable part likewise of the medicinal matter, which the water had before taken up from the ingredients, is separated along with them. Nor indeed is the clarification and despumation of the sugar, by itself, very advisable; for its purification by this process is not so perfect as might be expected: after it has undergone this process, the refiners still separate from it a quantity of oily matter, which is disagreeable to weak stomachs. It appears therefore most eligible to employ fine sugar for all the syrups; even the purgative ones (which have been usually made with coarse sugar, as somewhat coinciding with their intention) not excepted; for, as purgative medicines are in general ungrateful to the stomach, it is certainly improper to employ an addition which increases their offensiveness.

III.

Where the weight of the sugar is not expressed, twenty-nine ounces are to be taken in every pint of liquor. The sugar is to be reduced into powder, and dissolved in the liquor by the heat of a water-bath, unless ordered otherwise.

Although in the formula of several of the syrups, a double weight of sugar to that of the liquor is directed, yet less will generally be sufficient. First, therefore, dissolve in the liquor an equal weight of sugar, then gradually add some more

more in powder, till a little remains undiſſolved at the bottom, which is to be afterwards incorporated by ſetting the ſyrup in a water-bath.

The quantity of ſugar ſhould be ſo much, as the liquor is capable of keeping diſſolved in the cold: if there is more, a part of it will ſeparate, and concrete into cryſtals, or candy; if leſs, the ſyrup will be ſubject to ferment, eſpecially in warm weather, and change into a vinous, or ſour liquor. If in cryſtalliſing, only the ſuperfluous ſugar ſeparated, it would be of no inconvenience; but when part of the ſugar has candied, the remaining ſyrup is found to have an under proportion, and is as ſubject to fermentation as if it had wanted ſugar at firſt.

IV.

Copper-veſſels, unleſs they be well tinned ſhould not be employed in the making of acid ſyrups, or ſuch as are compoſed of the juices of fruits.

The confectioners, who are the moſt dexterous people at theſe kinds of preparations, to avoid the expence of frequently new-tinning their veſſels, rarely make uſe of any other than copper ones untinned, in the preparation even of the moſt acid ſyrups, as of oranges and lemons. Nevertheleſs, by taking due care, that their coppers be well ſcoured and perfectly clean, and that the ſyrup remain no longer in them than is abſolutely neceſſary, they avoid giving it any ill taſte or quality from the metal. This practice, however, is by no means to be recommended to the apothecary.

V.

The ſyrup, when made, is to be ſet by till next day; if any ſaccharine cruſt appears upon the ſurface, it is to be taken off.

SYRUPUS ACETII.

Edinb.

Syrup of vinegar.

Take of

Vinegar, two pounds and an half;
Refined ſugar, three pounds and an half.

Boil them till a ſyrup be formed.

This is to be conſidered as ſimple ſyrup merely acidulated, and is by no means unpleaſant. It is often employed in mucilaginous mixtures, and the like; and on account of its cheapneſs it is often preferred to ſyrup of lemons.

SYRUPUS ALTHÆÆ.

Lond.

Syrup of marſhmallow.

Take of

Freſh root of marſhmallow, bruiſed, one pound;
Double-refined ſugar, four pounds;
Diſtilled water, one gallon.

Boil the water with the marſhmallow root to one half, and preſs out the liquor when cold. Set it by twelve hours; and, after the feces have ſubſided, pour off the liquor. Add the ſugar, and boil it to the weight of ſix pounds.

Edin.

Take of

Marſhmallow roots, ſomewhat dried, nine ounces;
Water, ten pounds;
Pureſt ſugar, four pounds.

Boil the water with the roots to the conſumption of one half, and ſtrain the liquor, ſtrongly expreſſing it. Suffer the ſtrained liquor to reſt till the feces have ſubſided; and when it is free of the dregs, add the ſugar; then boil ſo as to make a ſyrup.

The ſyrup of marſhmallows ſeems to have been a ſort of favourite among

mong dispensatory writers, who have taken great pains to alter and amend it, but have been wonderfully tender in retrenching any of its articles. In the last prescription, it is lopt of its superfluities, without any injury to its virtues. It is used chiefly in nephretic cases, for sweetening emollient decoctions, and the like: of itself it can do little service, notwithstanding the high opinion which some have entertained of it; for what can be expected from two or three spoonfuls of the syrup, when the decoction, from which two or three pounds are made, may be taken at a draught or two? It is sometimes useful in tickling coughs, by invisceating irritating matter distilling in the fauces: in this way it sometimes affords considerable relief.

SYRUPUS CARYOPHILLI RUBRI.

Lond.

Syrup of clove July-flower.

Take of
- Fresh clove July-flowers, the heels being cut off, two pounds;
- Boiling distilled water, six pints.

Macerate the flowers for twelve hours in a glass vessel; and, in the strained liquor, dissolve the double-refined sugar, that it may be made a syrup.

SYRUPUS CARYOPHILLORUM.

Edin.

Syrup of clove July-flower.

Take of
- Clove July-flowers, fresh gathered and freed from the heels, one pound;
- Purest sugar, seven pounds and a quarter;
- Boiling water, four pounds.

Macerate the flowers in the water for a night; then to the strained liquor add the sugar previously heat, and dissolve it by a gentle heat, to make the whole into a syrup.

This syrup is of an agreeable flavour, and a fine red colour; and for these it is chiefly valued. Some have substituted to it one easily preparable at seasons when the flowers are not to be procured: an ounce of clove spice is infused for some days in twelve ounces of white wine, the liquor strained, and, with the addition of twenty ounces of sugar, boiled to a proper consistence: a little cochineal renders the colour of this syrup exactly similar to that prepared from the clove July-flower; and its flavour is of the same kind, though not so pleasant. The abuse may be readily detected by adding to a little of the syrup some alkaline salt or ley; which will change the genuine syrup to a green colour; but in the counterfeit, it will make no such alteration, only varying the shade of the red.

As the beauty of the colour is a principal quality in this syrup, no force in the way of expression should be used in separating the liquor from the flowers.

SYRUPUS COLCHICI.

Edin.

Syrup of colchicum.

Take of
- Colchicum root, fresh and succulent, cut into small pieces, one ounce;
- Vinegar, sixteen ounces;
- Purest sugar, twenty-six ounces.

Macerate the root in the vinegar two days, now and then shaking the vessel; then strain it with a gentle pressure. To the strained liquor add the sugar, and boil a little, so as to form a syrup.

This syrup seems to be the best preparation of the colchicum; great care is required to take up this root in

in the proper ſeaſon: and from errors of this kind we are to aſcribe the uncertainty in the effects of this medicine as found in the ſhops.

The ſyrup of colchicum is often ſucceſsfully employed as a diuretic, and may be taken from a dram or two to the extent of an ounce or more.

SYRUPUS CORTICIS AURANTII.

Lond.

Syrup of orange-peel.

Take of
Freſh outer-rind of Seville oranges, eight ounces;
Boiling diſtilled water, five pints.
Macerate for twelve hours in a cloſe veſſel; and, in the ſtrained liquor, diſſolve the double-refined ſugar to make a ſyrup.

Edin.

Take of
Yellow rind of Seville orange-peel, freſh, ſix ounces;
Boiling water, three pounds.
Infuſe them for a night in a cloſe veſſel; then ſtrain the liquor; let it ſtand to ſettle; and having poured it off clear from the ſediment, diſſolve in it four pounds and a quarter of white ſugar, ſo as to make it into a ſyrup with a gentle heat.

In making this ſyrup, it is particularly neceſſary that the ſugar be previouſly powdered, and diſſolved in the infuſion with as gentle a heat as poſſible, to prevent the exhalation of the volatile parts of the peel. With theſe cautions, the ſyrup proves a very elegant and agreeable one, poſſeſſing great ſhare of the fine flavour of the orange-peel.

SYRUPUS CROCI.

Lond.

Syrup of ſaffron.

Take of
Saffron, one ounce
Boiling diſtilled water, one pint.
Macerate the ſaffron, in the water, for twelve hours, in a cloſe veſſel; and diſſolve the double-refined ſugar in the ſtrained liquor that it may be made a ſyrup.

Saffron is very well fitted for making a ſyrup, as in this form a ſufficient doſe of it is contained in a reaſonable compaſs. This ſyrup is at preſent frequently preſcribed; it is a pleaſant cordial, and gives a fine colour to juleps.

SYRUPUS SUCCI LIMONIS.

Lond.

Syrup of lemon-juice.

Take of
Lemon-juice, ſtrained, after the feces have ſubſided, two pints;
Double-refined ſugar, fifty ounces.
Diſſolve the ſugar, that it may be made a ſyrup.

SYRUPUS e SUCCO MALORUM LIMONIORUM.

Edin.

Syrup of lemon-juice.

Take of
Juice of lemons, ſuffered to ſtand till the feces have ſubſided, and afterwards ſtrained, two pounds and a half.
Double-refined ſugar, fifty ounces.
Diſſolve the ſugar in the juice, ſo as to make a ſyrup thereof.

SYRUPUS, FRUCTUS MORI.

Lond.

Syrup of the juice of mulberries.

SYRUPUS FRUCTUS RUBI IDÆI.

Lond.

Syrup of the juice of raſpberries.

SYRUPUS FRUCTUS RIBIS NIGRI.

Lond.

Syrup of black currants.

These three are directed by the London college to be prepared in the same manner as syrup of lemons, which immediately preceedes them.

All these four are very pleasant cooling syrups; and with this intention are occasionally made use of in draughts and juleps, for quenching thirst, abating heat, &c in bilious or inflammatory distempers. They are sometimes likewise employed in gargarisms for inflammations of the mouth and tonsils.

SYRUPUS PAPAVERIS ALBI.

Lond.

Syrup of the white poppy.

Take of
- The heads of white poppies, dried, and the seeds taken out, three pounds and an half;
- Double-refined sugar, six pounds.
- Distilled water, eight gallons.

Slice and bruise the heads, then boil them in the water to three gallons, in a water-bath saturated with sea-salt, and press out the liquor. Reduce this by boiling to about the measure of four pints, and strain it whilst it is hot, first through a sieve, then through a thin woollen cloth, and set it aside for twelve hours, that the feces may subside. Boil the liquor, poured off from the feces, to three pints, and dissolve the sugar in it that it may be made a syrup.

SYRUPUS PAPAVERIS ALBI, seu de MECONIO, vulgo DIACODION.

Edin.

Syrup of white poppies, or *of meconium*, commonly called *diacodium*.

Take of
- White poppy heads, dried, and freed from the seeds, two pounds;
- Boiling water, thirty pounds;
- Purest sugar, four pounds.

Macerate the bruised heads in the water for a night; next boil till only one-third part of the liquor remain; then strain it; expressing it strongly. Boil the strained liquor to the consumption of one half, and strain again; lastly, add the sugar, and boil to a syrup.

It may also be made by dissolving in two pounds and a half of simple syrup, one dram of the extract of white poppies.

This syrup, impregnated with the opiate matter of the poppy heads, is given to children in doses of two or three drams; to adults, from half an ounce to an ounce and upwards, for easing pain, procuring rest, and answering the other intentions of mild opiates. Particular care is requisite in its preparation, that it may be always made, as nearly as possible, of the same strength; and accordingly the colleges have been very minute in their description of the process.

SYRUPUS PAPAVERIS ERRATICI.

Lond.

Syrup of the red poppy.

Take of
- The fresh flowers of the wild, or red, poppy, four pounds;
- Boiling distilled water, four pints and an half.

Put the flowers, by degrees, into the boiling water, in a water-bath, constantly stirring them. After this, the vessel being taken out of the bath, macerate for twelve hours; then press out the liquor, and

and ſet it apart, that the fecces may ſubſide. Laſtly, make it into a ſyrup, with double-refined ſugar.

The deſign of putting the flowers into boiling water in a water-bath is, that they may be a little ſcalded, ſo as to ſhrink enough to be all immerged in the water; without this artifice, they can ſcarce be all got in: but they are no longer to be continued over the fire than till this effect is produced, leſt the liquor become too thick, and the ſyrup rendered ropy.

This ſyrup has been recommended in diſorders of the breaſt, coughs, ſpitting of blood, pleuriſies, and other diſeaſes, both as an emollient and as an opiate. It is one of the lighteſt of the opiate medicines; and in this reſpect ſo weak, that ſome have doubted of its having any anodyne quality. We indeed preſume, that it might be very ſafely ſuperſeded altogether: and accordingly it has now no place either in the Edinburgh pharmacopœia, or ſome of the beſt foreign ones, though ſtill retained by the London college.

SYRUPUS ROSÆ.

Lond.

Roſe-ſyrup.

Take of
- The dried petals of the damaſk roſe, ſeven ounces;
- Double-refined ſugar, ſix pounds;
- Boiling diſtilled water, four pints.

Macerate the petals of the roſe in water for twelve hours, and ſtrain. Evaporate the ſtrained liquor to two pints and an half, and add the ſugar, that it may be made a ſyrup.

SYRUPUS ROSARUM PALLIDARUM.

Edin.

Syrup of pale roſes.

Take of
- Pale roſes, freſh gathered, one pound;
- Boiling water, four pounds;
- White ſugar, three pounds.

Macerate the roſes in the water for a night; then to the liquor ſtrained, and freed from the dregs, add the ſugar; boil them into a ſyrup.

This ſyrup may likewiſe be made from the liquor remaining after the diſtillation of roſe-water, depurated from its feces.

The liquor remaining after the diſtillation of roſes (provided the ſtill has been perfectly clean), is as proper for making this ſyrup as a freſh infuſion; for the diſtillation only collects thoſe volatile parts which are diſſipated in the air whilſt the infuſion is boiling to its conſiſtence: This ſyrup is an agreeable and mild purgative for children, in the doſe of half a ſpoonful, or a ſpoonful. It likewiſe proves gently laxative to adults; and with this intention may be of ſervice in coſtive habits. Its principal uſe is in ſolutive glyſters.

SYRUPUS e ROSIS SICCIS.

Edin.

Syrup of dry roſes.

Take of
- Red roſes, dried, ſeven ounces;
- White ſugar, ſix pounds;
- Boiling water, five pounds.

Infuſe the roſes in the water for a night, then boil them a little; ſtrain out the liquor, and adding to it the ſugar, boil them to the conſiſtence of a ſyrup.

This ſyrup is ſuppoſed to be mildly aſtringent; but is principally valued on account of its red colour. The London college have omitted it, having retained others at leaſt equal to it in that reſpect.

SYRUPUS SCILLITICUS.

Edin.

Syrup of ſquills.

Take of
- Vinegar of ſquills, two pounds;
- White ſugar, three pounds and a half.

Make them into a ſyrup with a gentle heat.

This ſyrup was formerly prepared with ſome ſpices, intended to alleviate the offenſiveneſs of the ſquills. But while they had not this effect, they often counteracted the intention in view, and are therefore omitted. It is uſed chiefly in doſes of a ſpoonful or two, for promoting expectoration, which it does very powerfully.

SYRUPUS SIMPLEX, ſive COMMUNIS.

Edin

Simple or common ſyrup.

Take of
- Pureſt ſugar, fifteen parts;
- Water, eight parts.

Let the ſugar be diſſolved by a gentle heat.

This preparation is a plain liquid ſweet, void of flavour or colour. It is convenient for ſundry purpoſes where theſe qualities are not wanted, or would be exceptionable.

SYRUPUS SPINÆ CERVINÆ.

Lond.

Syrup of buckthorn.

Take of
- The juice of ripe and freſh buckthorn berries, one gallon;
- Ginger, bruiſed, one ounce;
- All ſpice, powdered, one ounce and an half;
- Double-refined ſugar, ſeven pounds.

Set by the juice for ſome days, that the feces may ſubſide, and ſtrain. Macerate the ginger and all-ſpice in a pint of the ſtrained juice, for four hours, and ſtrain. Boil away the reſt of the juice to three pints; then add that part of the juice in which the ginger and all-ſpice have been macerated; and, laſtly, the ſugar, that it may be made a ſyrup.

SYRUPUS e RHAMNO CATHARTICO ſeu e SPINA CERVINA.

Edin.

Syrup of buckthorn.

Take of
- The juice of ripe buckthorn berries, depurated, ſeven pounds and a half;
- White ſugar, three pounds and a half.

Boil them to the conſiſtence of a ſyrup.

Both theſe preparations, in doſes of three or four ſpoonfuls, operate as briſk cathartics. The principal inconveniences attending them are, their being very unpleaſant, and their occaſioning a thirſt and dryneſs of the mouth and fauces, and ſometimes violent gripes: theſe effects may be prevented by drinking liberally of water-gruel, or other warm liquids, during the operation. The ungratefulneſs of the buckthorn is endeavoured to be remedied in the firſt of the above preſcriptions, by the addition of aromatics, which, however, are ſcarcely ſufficient for that purpoſe. The ſecond alſo had formerly an aromatic material for the ſame intention, a dram of the eſſential oil of cloves; which being found ineffectual, is now rejected.

SYRUPUS TOLUTANUS.

Lond.

Syrup of balſam of Tolu.

Take

Take of
The balſam of Tolu, eight ounces;
Diſtilled water, three pints.
Boil for two hours. Mix with the liquor, ſtrained after it is cold, the double-refined ſugar, that it may be made a ſyrup.

SYRUPUS BALSAMICUS.
Edin.
Balſamic ſyrup.

Take of
The ſyrup of ſugar, juſt made, and warm from the fire, two pounds;
Tincture of balſam of Tolu, one ounce.
When the ſyrup has grown almoſt cold, ſtir into it the tincture, by little at a time, agitating them well together, till perfectly united.

This laſt method of making the balſamic ſyrup was dropt in one of the preceding editions of the Edinburgh pharmacopœia, on a complaint that the ſpirit ſpoiled the taſte of the ſyrup; which it did in a great degree when the tincture was drawn with malt-ſpirits, the nauſeous oil which all the common malt-ſpirits are accompanied with communicating that quality; and this was particularly the caſe when the ſpirituous part was evaporated from the ſyrup, as was directed in the former edition of the Edinburgh pharmacopœia. Particular care therefore ſhould be taken, that the ſpirit, employed for making the tincture, be perfectly clean, and well rectified from all ill flavour.

The intention of the contrivers of the two foregoing proceſſes ſeems to have been ſomewhat different. In the firſt, the more ſubtile and fragrant parts of the balſam are extracted from the groſſer reſinous matter, and alone retained in the ſyrup: the other ſyrup contains the whole ſubſtance of the balſam in larger quantity. They are both moderately impregnated with the agreeable flavour of the balſam.

In ſome pharmacopœias, a ſyrup of this kind is prepared from a tincture of balſam of Peru, with roſewater, and a proper quantity of ſugar.

SYRUPUS VIOLÆ.
Lond.
Syrup of violets.

Take of
The freſh petals of the violet, two pounds;
Boiling diſtilled water, five pints.
Macerate for twenty-four hours; afterwards ſtrain the liquor, without preſſing, through thin linen. Add refined ſugar, that it may be made a ſyrup.

SYRUPUS VIOLARUM.
Edin
Syrup of violets.

Take of
Freſh violets, one pound;
Boiling water, four pounds.
Pureſt ſugar, ſeven pounds and a half.
Macerate the violets in the water for twenty-four hours in a glaſs, or at leaſt a glazed earthen veſſel, cloſe covered; then ſtrain without expreſſion, and to the ſtrained liquor add the ſugar, beat, and make into a ſyrup.

This ſyrup is of a very agreeable flavour; and in the quantity of a ſpoonful or two proves to children gently laxative. It is apt to loſe, in keeping, the elegant blue colour, for which it is chiefly valued; and hence ſome have been induced to counterfeit it with materials whoſe colour is more permanent. This abuſe may be readily diſcovered, by adding to a little of the ſuſpected ſyrup any acid or alkaline liquor. If the ſyrup be

genuine, the acid will change its blue colour to a red, and the alkali will change it to a green; but if counterfeit, these changes will not happen. It is obvious, from this mutability of the colour of the violet, that the prescriber would be deceived if he should expect to give any blue tinge to acidulated or alkalised juleps or mixtures, by the addition of the blue syrup.

SYRUPUS ZINGIBERIS.

Lond.

Syrup of ginger.

Take of
Ginger, bruised, four ounces;
Boiling distilled water, three pints.
Macerate for four hours, and strain; then add the refined sugar, that it may be made a syrup.

Edin.

Take of
Beat ginger, three ounces;
Boiling water, four pounds;
Purest sugar, seven pounds and a half.
Macerate the ginger in the water in a close vessel, for twenty-four hours; then to the liquor strained, and freed from the feces. add the beat sugar, and make them into a syrup.

These are agreeable and moderately aromatic syrups, lightly impregnated with the flavour and virtues of the ginger.

SYRUPUS ACIDUS.

Gen.

Acid syrup.

Take of
Weak spirit of vitriol, two drams;
Syrup of lemons, six ounces.
Mix them.

Where we wish to obtain a syrup, not only strongly acidulated, but also powerfully astringent, this formula may be considered as well suited to answer the purpose.

SYRUPUS ALKALINUS.

Gen.

Alkaline syrup.

Take of
Salt of tartar, three drams;
Simple syrup, six ounces.
Mix them.

In this syrup we have in some degree the converse of the preceding; and it may be usefully employed, either for the destruction of acid in the stomach, or for the formation of neutral or effervescent mixtures.

SYRUPUS ALLII.

Suec.

Syrup of garlic.

Take of
The fresh root of garlic, sliced, one pound;
Boiling water, two pounds.
Macerate them in a close vessel for an hour; add to the strained liquor,
Refined sugar, two pounds.
Boil them to a syrup.

This syrup formerly held a place in our pharmacopœias, and was recommended for promoting expectoration in cases of chronic catarrh, and other affections of the breast: But, as well as the oxymel ex alio, it is now banished from them; and there can be little doubt that the same intentions may in general be answered by less disagreeable medicines. Yet where we wish to employ garlic as acted upon by a watery menstruum, this formula is perhaps one of the best under which it can be exhibited.

SYRUPUS

SYRUPUS AMYGDALINUS.

Suec.

Syrup of almonds.

Take of
Sweet almonds, one pound;
Bitter almonds, two drams.
Let the almonds be blanched and beat in a ſtone mortar, with a wooden peſtle; then by degrees add barley-water, two pounds; ſtrain the liquor, and form it into a ſyrup, with as much double-refined ſugar as may be neceſſary.

The agreeable flavour of the almonds, is in this formula communicated to a ſyrup, which may be advantageouſly employed to ſweeten mixtures, or to form a pleaſant drink when diffuſed in water; and the flavour is not a little improved by the addition of the proportion of bitter almonds here directed. But even theſe cannot be ſuppoſed to communicate any active quality to this ſyrup, as they are employed in ſo ſmall a quantity; and ſtill leſs is to be expected from the ſweet almonds, which can communicate little more to the ſyrup than their mild oil.

SYRUPUS CINNAMONI.

Roſs.

Syrup of cinnamon.

Take of
Cinnamon, bruiſed, five ounces;
Spirituous cinnamon-water, two pounds.
Digeſt them in a cloſe glaſs veſſel for twenty-four hours; then add to the ſtrained liquor double-refined ſugar, three pounds; boil it to a ſyrup.

This ſyrup is ſtrongly impregnated with the cinnamon; and where we wiſh to ſweeten any mixture, at the ſame time adding to it an agreeable aromatic, it is perhaps one of the beſt articles we can employ.

SYRUPUS EMETICUS

Brun.

Emetic ſyrup.

Take of
Glaſs of antimony, finely powdered, two drams;
Rheniſh wine, twelve ounces.
Let them be digeſted for three days in a gentle heat, then ſtrain the liquor through paper, and mix with the ſtrained liquor thirty ounces of double-refined ſugar. Let it be formed into a ſyrup and kept in a cloſe veſſel.

There can be no doubt of this ſyrup being ſtrongly impregnated with the emetic quality of the antimony; and it will at leaſt have ſo far the advantage of being very agreeable to the taſte, that it may be readily taken by very young people. But every good effect to be obtained from it may be had with more certainty, by adding to ſimple ſyrup any quantity that may be thought neceſſary of the tartarus antimonialis, previouſly diſſolved in a ſmall proportion of water.

SYRUPUS HYDRARGYRI.

Suec.

Syrup of quickſilver.

Take of
Purified quickſilver, one dram;
Gum arabic, three drams;
Roſe water, as much as is ſufficient for reducing the gum to a mucus.
Let them be rubbed in a mortar, till the quickſilver totally diſappears; then by degrees mix with it ſimple ſyrup four ounces.

In this we have a preparation ſimilar to the mercurial ſolution of Dr Plenk, formerly mentioned; and which

which while it does not possess any other advantage than mere sweetness of taste is liable to the objections formerly urged against that p[illegible] tion.

CHAP. XXIV.

MELLA MEDICATA.

MEDICATED HONEYS.

THE more fixed parts of vegetables, dissolved in watery liquors, may be thence transferred into honey, by mixing the honey with the watery decoction or juice of the plant, and boiling them together till the aqueous part has exhaled, and the honey remains of its original consistence. Honey has not probably, however, any very peculiar advantage over sugar; and it is liable to many inconveniences which sugar is free from: in particular, it is much more liable to run into fermentation, and in many constitutions produces gripes, and often violent effects: The Edinburgh college have therefore rejected the whole of the oxymels from their last edition of the pharmacopœia. And the number of preparations with honey in most of the foreign pharmacopœias is now much diminished. Still, however, there are several much employed by practitioners of eminence; and of course retained in the London pharmacopœia.

MEL ROSÆ.

Lond.

Honey of roses.

Take of

Red rose-buds, with the heels cut off and dried, four ounces;

Distilled water, boiling, three pints;

Clarified honey, five pounds.

Macerate the rose-petals in the water for six hours; then mix the honey with the strained liquor, and boil the mixture to the thickness of a syrup.

THIS preparation is not unfrequently made use of as a mild cooling detergent, particularly in gargarisms for ulcerations and inflammation of the mouth and tonsils. The rose-buds here used should be hastily dried; the design of doing so is, that they may the better preserve their astringency.

MEL

MEL SCILLÆ.

Lond.

Honey of squills.

Take of
Clarified honey, three pounds;
Tincture of squill, two pints.
Boil them in a glass vessel to the thickness of a syrup.

The honey will here be impregnated with all the active parts of the squills which the tincture before contained, and may be employed as an useful expectorant or diuretic.

OXYMEL ÆRUGINIS.

Lond.

Oxymel of verdegris.

Take of
Prepared verdegris, one ounce;
Vinegar, seven ounces;
Clarified honey, fourteen ounces.
Dissolve the verdegris in the vinegar, and strain it through linen; then add the honey, and boil the whole to a proper thickness.

This is an improvement of what was formerly known in our pharmacopœias under the title of *Mel Ægyptiacum;* which, however, was, as then prepared, very uncertain with respect to strength. It is used only externally for cleansing foul ulcers, and keeping down fungous flesh. It is also often serviceable in venereal ulcerations of the mouth and tonsils: But there is some danger from its application to places from the situation of which it is apt to be swallowed; for even a small quantity of verdegris passing into the stomach may be productive of distressing, if not deliterious, effects.

OXYMEL COLCHICI.

Lond.

Oxymel of meadow saffron.

Take of
The fresh root of meadow-saffron, cut into thin slices, one ounce;
Distilled vinegar, one pint;
Clarified honey, two pounds.
Macerate the root of meadow-saffron, with the vinegar, in a glass vessel, with a gentle heat, for forty-eight hours. Strain the liquor, pressed out strongly from the root, and add the honey. Lastly, boil the mixture, frequently stirring it with a wooden spoon, to the thickness of a syrup.

This oxymel may be considered as very analogous to the syrupus colchici of which we have already made some observations. Under this form it was first introduced by Dr Stoerk. And although with certain constitutions the syrup is unquestionably preferable, yet it well deserves a place in our pharmacopœias, as being an active medicine.

OXYMEL SCILLÆ.

Lond.

Oxymel of squill.

Take of
Clarified honey, three pounds;
Vinegar of squill, two pints.
Boil them in a glass vessel, with a slow fire, to the thickness of a syrup.

The honey was formerly employed for this preparation unclarified, and the scum, which in such cases arises in the boiling, taken off; by this means the impurities of the honey were discharged; but some of the medicinal parts of the squills, with which the vinegar was impregnated, were also separated. For this reason the college of London have now judiciously ordered the honey for all these kinds of preparations to be previously clarified by itself.

Oxymel of squills is an useful aperient,

perient, detergent, and expectorant, and of great service in humoral asthmas, coughs, and other disorders where thick phlegm abounds. It is given in doses of two or three drams, along with some aromatic water, as that of cinnamon, to prevent the great nausea which it would otherwise be apt to excite. In large doses, it proves emetic.

OXYMEL SIMPLEX.

Lond.

Simple oxymel.

Take of
- Clarified honey, two pounds;
- Distilled vinegar, one pint.

Boil them in a glass-vessel, with a slow fire, to the thickness of a syrup.

This preparation may be considered as analogous to the syrupus aceti of the Edinburgh pharmacopœia. It is not inferior in efficacy to many more elaborate compositions. It is an agreeable, mild, cooling medicine. It is often used in cooling, detergent, gargarisms, and not unfrequently as an expectorant.

OXYMEL ex ALLIO.

Dan.

Oxymel of garlic.

Take of
- Garlic, cut in slices, an ounce and a half;
- Caraway seeds,
- Sweet fennel seeds, each two drams;
- Clarified honey, ten ounces;
- Vinegar, half a pint.

Boil the vinegar for a little time, with the seeds bruised, in a glazed earthen vessel; then add the garlic, and cover the vessel close; when grown cold, press out the liquor, and dissolve in it the honey by the heat of a water-bath.

This oxymel is recommended for attenuating viscid juices, promoting expectoration, and the fluid secretions in general. It is doubtless a medicine of considerable efficacy, though very unpleasant, the flavour of the garlic prevailing, notwithstanding the addition of the aromatic seeds.

OXYMEL PECTORALE.

Brun.

Pectoral oxymel.

Take of
- Elecampane roots, one ounce;
- Florence orris roots, half an ounce;
- Gum ammoniacum, one ounce;
- Vinegar, half a pint;
- Clarified honey, one pound;
- Water, three pints.

Let the roots, cut and bruised, be boiled in the water till one-third is wasted; then strain off the liquor; let it stand to settle; and having poured it off clear from the feces, add to it the honey and the ammoniacum, previously dissolved in the vinegar. Mix them together, by boiling them a little.

The title of this composition expresses its medical virtues. It is designed for those disorders of the breast that proceed from a load of viscid phlegm and obstructions of the pulmonary vessels. Two or three spoonfuls may be taken every night and morning, and continued for some time.

CHAP.

CHAP. XXV.

PULVERES.

POWDERS.

THIS form receives ſuch materials only as are capable of being ſufficiently dried to become pulverable, without the loſs of their virtue. There are many ſubſtances, however, of this kind, which cannot be conveniently taken in powder: bitter, acrid, fetid drugs, are too diſagreeable: emollient and mucilaginous herbs and roots are too bulky: pure gums cohere, and become tenaceous in the mouth; fixt alkaline ſalts liquefy upon expoſing the compoſition to the air; and volatile alkalies exhale. Many of the aromatics, too, ſuffer a greater loſs of their odorous principle when kept in powder; as in that form they no doubt expoſe a much larger ſurface to the air.

The doſe of powders, in extemporaneous preſcription, is generally about half a dram: it rarely exceeds a whole dram; and is not often leſs than a ſcruple. Subſtances which produce powerful effects in ſmaller doſes are not truſted to this form, unleſs their bulk be increaſed by additions of leſs efficacy; thoſe which require to be given in larger ones are better fitted for other forms.

The uſual vehicle for taking the lighter powders, is any agreeable thin liquid. The ponderous powders, particularly thoſe prepared from metallic ſubſtances, require a more conſiſtent vehicle, as ſyrups; for from thin ones they ſoon ſubſide. Reſinous ſubſtances likewiſe are moſt commodiouſly taken in thick liquors: in thin ones, they are apt to run into lumps, which are not eaſily again diſſoluble.

General rules for making powders.

I.

Particular care ought to be taken that nothing carious, decayed, or impure, be mixed in the compoſition of powders: the ſtalks and corrupted parts of plants are to be ſeparated.

II.

The dry aromatics ought to be ſprinkled, during their pulverization, with a few drops of any proper water.

III.

The moiſter aromatics may be dried with a very gentle heat, before they are committed to the mortar.

IV. Gums,

IV.

Gums, and such other substances as are difficultly pulverable, should be pounded along with the drier ones, that they may pass the sieve together.

V.

No part should be separated for use, until the whole quantity put into the mortar has passed the sieve, and the several siftings been mixed together; for those parts of one and the same subject, which powder first, may prove different, at least in degree of efficacy, from the rest.

VI.

Powders of aromatics are to be prepared only in small quantities at a time, and kept in glass-vessels very closely stopt.

If powders are long kept, and not carefully secured from the air, their virtue is in great measure destroyed, although the parts in which it consists should not in other circumstances prove volatile. Thus, though the virtues of ipecacuanha are so fixt as to remain entire even in extracts made with proper menstrua, yet if the powdered root be exposed for a long time to the air, it loses its emetic quality.

PULVIS ALOETICUS.

Lond.

Aloetic powder.

Take of

Socotorine aloes, one pound;
White canella, three ounces.

Rub them separately to powder, then mix them.

This composition has long been known in the shops under the title of *hiera picra*. It furnishes us with an useful aloetic purgative, the canella operating as a good corrigent for the aloes. But it is more frequently employed as the basis of an electuary of pills, or of a tincture, which was for a long time distinguished by the appellation of *sacred tincture*.

PULVIS ALOETICUS CUM FERRO.

Lond.

Aloetic powder with iron.

Take of

Socotorine aloes, powdered, an ounce and an half;
Myrrh, powdered, two ounces;
Dry extract of gentian;
Vitriolated iron, of each, in powder, one ounce.

Mix them.

In this powder we have an aloetic and chalybeate conjoined. It consists of nearly the same articles which formerly entered the composition of the Pilulæ Ecphracticæ Chalybeatæ, as they were called; and it is perhaps more frequently employed when brought to the form of pills by means of syrups, than under that of powder: But in either way it is an useful medicine, and is particularly employed with advantage in cases of obstructed menstruation.

PULVIS ALOETICUS CUM GUAIACO.

Lond.

Aloetic powder with guaiacum.

Take of

Socotorine aloes, one ounce and an half;
Gum guaiacum, one ounce;
Aromatic powder, half an ounce.

Rub the aloes and gum guaiacum separately to powder; then mix all the ingredients together.

In the guaiacum, as well as the aloes, we have a warm gummi-resinous purgative; and both are corrected, as well as more minutely divided, from their combination with the aromatics. This therefore furnishes

nishes us with an useful purgative: But when taken only in small doses, its chief effect is that of promoting perspiration. It is, however, more frequently employed reduced to the form of pills than in the state of powder; and indeed it consists of nearly the same ingredients which constituted the pilulæ aromaticæ of the former edition of the London pharmacopœia.

PULVIS AROMATICUS.
Lond
Aromatic powder.

Take of
Cinnamon, two ounces;
Smaller cardamom seeds, husked,
Ginger,
Long pepper, of each one ounce.
Rub them together to a powder.

PULVIS DIAROMATON, sive SPECIES AROMATICÆ.
Edinb.
Aromatic powder, or *Aromatic species.*

Take of
Nutmegs,
Lesser cardamom seeds,
Ginger, of each two ounces.
Beat them together into a powder, to be kept in a phial well shut.

Both these compositions are agreeable, hot, spicy medicines; and as such may be usefully taken in cold phlegmatic habits and decayed constitutions, for warming the stomach, promoting digestion, and strengthening the tone of the viscera. The dose is from ten grains to a scruple and upwards. The first is considerably the warmest. This principally arises from the quantity of long pepper which it contains; but it is perhaps to be doubted whether from this article any advantage be derived: and a powder not inferior to either might, we think, be formed by substituting cassia to the cinnamon employed by the one college, or the nutmegs by the other.

PULVIS ASARI COMPOSITUS.
Lond.
Compound powder of asarabacca.

Take of
The dry leaves of asarabacca,
Sweet marjoram,
Syrian herb-mastich,
Dry flowers of lavender, of each one ounce.
Powder them together.

PULVIS STERNUTATORIUS, sive CEPHALICUS.
Edin.
Sternutatory, or *Cephalic powder.*

Take of
The leaves of asarum, three parts;
Marjoram, one part.
Beat them together into a powder.

Though the former of these powders be more compounded than the latter, yet they differ very little. They are both agreeable and efficacious errhines, and superior to most of those usually sold under the name of *herb snuff*. They are often employed with great advantage in cases of obstinate headach, and of ophthalmias resisting other modes of cure. Taken under the form of snuff to the extent of five or six grains at bed-time, they will operate the succeeding day as a powerful errhine, inducing frequent sneezing, but still more a large discharge from the nose. It is, however, necessary, during their operation, to avoid exposure to cold.

PULVIS e CERUSSA.
Lond.
Powder of ceruse.

Take of
Ceruse, five ounces;
Sarcocol, one ounce and an half;
Tra-

Tragacanth, half an ounce.
Rub them together into powder.

This composition is the *trochisci albi* of Rhazes brought back to its original simplicity with regard to the ingredients, and without the needless trouble of making it into troches. It is employed for external purposes, as in collyria, lotions, and injections, for repelling acrimonious humours; and in inflammations.

PULVIS e CHELIS CANCRORUM COMPOSITUS.

Lond.

Compound powder of crabs claws.

Take of
Crabs claws, prepared, one pound;
Chalk,
Red coral, each, prepared, three ounces.
Mix them.

These powders have lost several of their ingredients, without any injury to their virtues; and possibly they would still bear a farther reduction; for the crabs eyes and chalk are by themselves at least as effectual as any composition of them with coral: And perhaps every purpose to be obtained from them may be accomplished by a more simple absorbent, as the pulvis cretaceus, afterwards to be mentioned, or the powder of the lapilli cancrorum.

PULVIS CONTRAYERVÆ COMPOSITUS.

Lond.

Compound powder of contrayerva.

Take of
Contrayerva, powdered, five ounces;
Compound powder of crabs-claws, one pound and an half.
Mix them.

This powder was formerly directed to be made up into balls with water, and was then called Lapis contrayervæ; a piece of trouble now laid aside as needless, for it was necessary to reduce the balls into powder again before they could be used. Nor did that form contribute, as has been imagined, to their preservation; for it is scarce to be supposed that the powder will lose more by being kept for a reasonable length of time in a close-stopt glass, than the balls will in the humectation with water, and exsiccation in the air, before they are fit for being put by to keep. This medicine has a much better claim to the title of an alexipharmac and sudorific than the foregoing compositions. The contrayerva by itself proves very serviceable in low fevers, where the vis vitæ is weak, and a diaphoresis to be promoted. It is possible, that the crabs-claw powders are of no farther service than as they divide this powerful ingredient, and make it sit more easily on the stomach.

PULVIS e CRETA COMPOSITUS.

Lond.

Compound powder of chalk.

Take of
Prepared chalk, half a pound;
Cinnamon, four ounces;
Tormentil,
Gum arabic, of each, three ounces;
Long pepper, half an ounce.
Powder them separately, and mix them.

PULVIS CRETACEUS.

Edinb.

Chalk powder.

Take of
White chalk prepared, four ounces;
Nutmeg, half a dram;
Cinnamon, one dram.
Mix and make them into a powder; which may supply the place of the *cardialgic troches*.

The

The addition of the aromatics in the above formula, coincides with the general intention of the remedy which is indicated for weakneſs and acidity in the ſtomach; and in looſeneſs from acidity.

PULVIS e CRETA COMPOSITUS CUM OPIO.

Lond.

Compound powder of chalk with opium.

Take of
- Compound powder of chalk, eight ounces;
- Hard purified opium, powdered, one dram and an half.

Mix them.

From the addition of the opium this remedy becomes ſtill more powerful than the above in reſtraining diarrhœa.

PULVIS IPECACUANHÆ COMPOSITUS.

Lond.

Compound powder of ipecacuanha.

Take of
- Ipecacuanha,
- Hard purified opium, of each, powdered, one dram;
- Vitriolated kali, powdered, one ounce.

Mix them.

PULVIS SUDORIFICUS, five DOVERI.

Edin.

Sudorific, or *Dover's powder.*

Take of
- Vitriolated tartar, three drams;
- Opium,
- Root of ipecacuanha, beat, of each one ſcruple.

Mix, and grind them accurately together, ſo as to make an uniform powder.

The vitriolated tartar, from the grittineſs of its cryſtals, is perhaps better fitted for tearing and dividing the tenacious opium than any other ſalt; this ſeems to be its only uſe in the preparation. The operator ought to be careful that the opium and ipecacuanha ſhall be equally diffuſed through the whole maſs of powder, otherwiſe different portions of the powder muſt have differences in degree of ſtrength.

The hard purified opium, directed by the London college, is, from this circumſtance, preferable to opium in its ordinary ſtate, employed by the Edinburgh college.

This powder is one of the moſt certain ſudorifics that we know of; and as ſuch, was recommended by Dr Dover as an effectual remedy in rheumatiſm. Modern practice confirms its reputation, not only in rheumatiſm, but alſo in dropſy and ſundry other diſeaſes, where it is often difficult by other means to produce a copious ſweat. The doſe is from five to ten or twelve grains, according as the patient's ſtomach and ſtrength bear it. It is convenient to avoid much drinking immediately after taking it, otherwiſe it is very apt to be rejected by vomiting before anyother effects are produced.

PULVIS e JALAPA. COMPOSITUS.

Edinb.

Compound powder of jalap.

Take of
- Jalap root, one ounce;
- Cryſtals of tartar, two ounces.

Mix, and diligently grind them together for ſome time, ſo as to form a very fine powder.

The uſe of the cryſtals in this preparation is to break down and divide the jalap into very minute particles, whereby its operation is thought to be meliorated; and on this account the two articles are directed

rected to be pounded together, and not separately. But whether from this circumstance any advantage arises or not, there can be no doubt that this combination furnishes us with a very useful and active purgative, in every case where it is necessary to produce both a full evacuation of the intestinal canal, and a free discharge from the system in general, under the form of catharsis.

PULVIS e MYRRHA COMPOSITUS.

Lond.

Compound powder of myrrh.

Take of
Myrrh,
Dried savin,
—— rue,
Russian castor, of each one ounce.
Rub them together into a powder.

This is a reformation of the *trochisci e myrrha*, a composition contrived by Rhazes against uterine obstructions. It may be taken in any convenient vehicle, or made into boluses, from a scruple to a dram or more, two or three times a-day.

PULVIS OPIATUS.

Lond.

Opiate powder.

Take of
Hard purified opium, powdered, one dram;
Burnt and prepared hartshorn, nine drams.
Mix them.

The hartshorn is here intended merely to divide the opium, and to give it the form of powder, altho' it may perhaps have also some influence in rendering the opium more active from destroying acid in the stomach. But whether in this way it has any effect or not, there can be no doubt that it is a very convenient formula for the exhibition of opium in powder; which on some occasions is preferable to its being given either in a liquid form or in that of pills. As ten grains of this powder contain precisely one of the opium, the requisite dose may be easily adapted to the circumstances of the case. It is often successfully employed as a sweating powder; and has not, like the Pulvis Doveri, the effect of inducing sickness at stomach, or vomiting.

PULVIS e SCAMMONIO COMPOSITUS.

Lond.

Compound powder of scammony.

Take of
Scammony,
Hard extract of jalap, of each two ounces;
Ginger, half an ounce.
Powder them separately, and mix them.

Edin.

Take of
Scammony,
Crystals of tartar, of each two ounces;
Mix, and grind them diligently into a powder.

It is much to be regretted, that in the pharmacopœias published by authority in Britain, two compositions should be distinguished by the same name, differing considerably from each other in their nature and degree of activity.

The compound powder of scammony in the last edition of the London pharmacopœia differed considerably from the present: For there the only addition was calcined hartshorn, intended merely for the division of the scammony. This purpose is still better answered by the crystals of tartar, which at the same time conspire with the operation of the scammony as a purgative. But the

the addition of jalap and ginger, according to the present formula of the London pharmacopœia, gives not only a purgative considerably different, but increases also the heating quality of the medicine, while the cream of tartar has an evident refrigerant power. Both may on occasions be useful, but we think that in most cases the Edinburgh formula will be found preferable.

In editions of our pharmacopœias of still older date, this powder was prepared with another very active ingredient, diaphoretic antimony. It was much celebrated as distinguished by the name of its inventor, being called from its first publisher, PULVIS CORNACHINI. In a former edition of the Edinburgh pharmacopœia it was thus directed to be prepared:

Take of
Diaphoretic antimony,
Cream of tartar,
Scammony, each equal parts.
Make them into a powder.

This may be given to the quantity of a dram or more. In other prescriptions, the tartar and antimonial calx bear nearly the same proportion to the scammony as the calcined hartshorn did in the London pharmacopœia. It appears probable, that neither of these ingredients are of any farther use, than as they divide the texture of the scammony; though Cornachini supposes very considerable advantage from some deobstruent quality in the tartar, whereby the vessels shall be opened, and the noxious humours prepared for expulsion; and from the preparation of antimony, though it have no sensible operation, he expects some share of the same success which sometimes attends the rougher preparations of that mineral.

Both the present formulæ may, however, be considered as possessing all the advantages of the Pulvis Cornachini.

PULVIS e SCAMMONIO CUM ALOE.

Lond.

Powder of scammony with aloes.

Take of
Scammony, six drams;
Hard extract of jalap,
Socotorine aloes, of each an ounce and an half;
Ginger, half an ounce.
Powder them separately, and mix them.

In this formula, the combination of scammony, jalap, and aloes, furnishes a very active purgative, which with some intentions at least, may be preferable to either of the preceding. Taken from five to ten grains, it will operate as a purgative, even in cases of obstinate costiveness.

PULVIS e SCAMMONIO CUM CALOMELANE.

Lond.

Powder of scammony with calomel.

Take of
Scammony, half an ounce;
Calomel,
Double-refined sugar, of each two drams.
Rub them separately to a powder, and then mix them.

In this formula, we have the scammony in a more simple state, united with such a proportion of calomel as must very considerably aid its purgative power. And accordingly it may be employed with advantage, both in cases of obstinate costiveness, and in dropsical affections, where a considerable discharge is required from the system.

PULVIS e SENNA COMPOSITUS.

Lond.

Compound powder of senna.

Take of
- Senna,
- Crystals of tartar, of each two ounces;
- Scammony, half an ounce;
- Ginger, two drams.

Rub the scammony by itself, rub the rest together into a powder, and then mix them all.

This powder is given as cathartics, in the dose of two scruples, or a dram. The spice is added, not only to divide, but to warm the medicine, and make it sit easier on the stomach. The scammony is used as a stimulus to the senna; the quantity of the latter necessary for a dose, when not assisted by some more powerful material, being too bulky to be conveniently taken in this form.

The composition of this medicine is now considerably simplified, by the rejection both of cinnamon and cloves, as the ginger alone is found fully to answer the intention in view.

PULVIS STYPTICUS.

Edin.

Styptic powder.

Take of
- Alum, an ounce and a half;
- Gum kino, three drams.

Grind them together into a fine powder.

In former editions of our pharmacopœia, a powder of this kind was directed to be made with alum and dragon's blood, and was long in repute as an astringent, under the title of *Pulvis stypticus Helvetii.* The gum kino is judiciously substituted to the dragon's blood, as being a much more powerful and certain astringent. The chief use of this powder is in hæmorrhagies, especially of the uterus.

PULVIS e TRAGACANTHA COMPOSITUS.

Lond.

Compound powder of tragacanth.

Take of
- Tragacanth, powdered,
- Gum Arabic,
- Starch, of each an ounce and an half;
- Double-refined sugar, three ounces.

Rub them together into a powder.

This composition is somewhat simplified by the rejection of the marsh-mallow, and liquorice-root, which formerly entered it. But this has not probably produced any diminution of its medical properties. It operates as a mild emollient; and hence becomes serviceable in hectic cases, tickling coughs, strangury, some kinds of alvine fluxes, and other disorders proceeding from a thin acrimonious state of the humours, or an abrasion of the mucus of the intestines: they soften, and give a greater degree of consistency to the former, and defend the latter from being irritated or excoriated by them. All the ingredients coincide in these general intentions. The dose is from half a dram to two or three drams, which may be frequently repeated.

PULVIS ANTHELMINTICUS.

Gen.

Anthelmintic powders.

Take of
- The flowers of tansy,
- Worm-seed, each three drams;
- Sal martis, one dram.

Mix them.

Both the tansy and worm-seed pos-

poſſeſs a conſiderable degree of anthelmintic power, which is not a little increaſed by the ſalt of ſteel. And from this combination more effect in the expulſion of worms, particularly of the lumbrici, may be expected, than from any of the articles taken by itſelf. This powder may be taken to the extent of half a dram or upwards for a doſe, proportioned to the age and circumſtances of the patient.

PULVIS ANTILYSSUS.

Brun.

Powder againſt the bite of a mad-dog.

Take of
- Aſh-coloured ground liverwort, two ounces;
- Black pepper, one ounce.

Beat them together into a powder.

The virtue which this medicine has been celebrated for, is expreſſed in its title; the doſe is a dram and a half, to be taken in the morning faſting, in half a pint of cows milk warm, for four mornings together.

At one period it was held, on the recommendation of Dr Mead and other eminent practitioners in very high eſteem. Now, however, it has fallen into ſuch diſrepute, as to be baniſhed from moſt of the modern pharmacopœias.

PULVIS ARI COMPOSITUS.

Suec.

Compound powder of arum.

Take of
- Arum root, freſh dried, two drams;
- Yellow water-flag roots,
- Burnet ſaxifrage roots, each one dram;
- Canella alba, a dram;
- Salt of wormwood, one ſcruple.

Beat them into a powder, which is to be kept in a cloſe veſſel.

In former editions of the London pharmacopœia, one of the ingredients in this compoſition was called *Acorus vulgi* or *vulgaris*; a name which has been applied, by different writers, both to *calamus aromaticus*, and to the *gladiolus luteus*, or common yellow water-flag. In this uncertainty, the compounders generally took the former. But as the medicine was firſt contrived by a German phyſician, Birkmann, and as in ſome of the German pharmacopœias the *acorus vulgaris* is explained to be the water-flag, the Swediſh college have, rather in conformity to the original preſcription, than from any opinion of the virtues of the water-flag (which appear, when the root is dried and powdered, to be very inconſiderable) made choice of this laſt, and expreſſed it by the name which more clearly diſtinguiſhes it from the other. The caution of keeping the powder in a cloſe veſſel is a very neceſſary one; for if expoſed to the air, the alkaline ſalt, imbibing moiſture from it, would run into a liquid ſtate. Two alkaline ſalts have been generally directed; but as they differ from each other only in name, one of them is here juſtly omitted, and ſupplied by a proportionable increaſe of the other. Crabs-eyes were originally an article in this compoſition, but probably ſerved little other purpoſe than to increaſe its volume.

Agreeably to the above remark, the college of Edinburgh, in a reviſal of their pharmacopœia, had omitted the crabs-eyes, and continued the former practice of uſing calamus aromaticus for the *acorus vulgaris*. They had likewiſe exchanged the cinnamon for the canella alba; and the alkaline ſalt for a neutral one, better ſuited to the form of a powder. Their formula was as follows:

Take of
Arum roots, newly dried, two ounces;
Calamus aromaticus,
Burnet saxifrage roots, each one ounce;
Canella alba, six drams;
Vitriolated tartar, two drams.
Mix and make them into a powder.

This article, which had formerly a place also in the London pharmacopœia, is still retained in some of the best foreign ones: But it is now altogether rejected from our pharmacopœias.

The *pulvis ari compositus* was originally intended as a stomachic: and in weaknesses and relaxations of the stomach, accompanied with a surcharge of viscid humours, it is doubtless a very useful medicine. It frequently also has good effects in rheumatic cases: the dose may be from a scruple to a dram, two or three times a-day, in any convenient liquor. It should be used as fresh as possible, for its virtue suffers greatly in keeping: the arum root in particular, its capital ingredient, soon loses the pungency, in which its efficacy principally consists.

PULVIS DIGESTIVUS.

Suec.

Digestive powder.

Take of
Bitter purging salts,
Rhubarb, each equal parts.
Mix them.

In this composition, the salt will brisken the operation of the rhubarb as a cathartic, and the astringency of the latter will tend to increase the tone of the stomach: hence in consequence of evacuating, and at the same time strengthening the alimentary canal, it may be presumed to have considerable influence in promoting digestion.

PULVIS DYSENTERICUS.

Dan.

Dysenteric powder.

Take of
Rhubarb, one ounce;
Calcined hartshorn, half an ounce;
Gum Arabic, three drams;
Cascarilla bark, two drams.
Mix them, and reduce them to a very fine powder.

Here the rhubarb is combined with another powerful tonic, the cascarilla; and while the calcined hartshorn serves to neutralize acid, the gum arabic will operate as a demulcent. This composition therefore may be very useful in dysenteric cases, after the violence of the disease has been overcome, and when there remains a debilitated and abraded state of the intestinal canal.

PULVIS FUMALIS.

Ross.

Fumigation powder.

Take of
Olibanum,
Amber,
Mastich, each three parts;
Storax, two parts;
Benzoine,
Labdanum, each one part.
Mix them into a gross powder.

This powder is intended for the purpose of fumigation; and when burnt it gives out a fragrant odour: hence it may be successfully employed for combating disagreeable smells, and counteracting putrid or other noxious vapours diffused in the atmosphere.

PULVIS INFANTUM.

Suec.

Powder for infants.

Take of
Magnesia alba, one ounce;
Rhubarb, reduced to a very fine powder, one dram.

Let them be mixed.

This powder is very useful for destroying acid, and at the same time restoring diminished tone of the alimentary canal: hence it is often advantageously employed in cases of diarrhœa, which depend on these morbid conditions. And it is in general a circumstance of considerable advantage, that it does not tend to check loosenes very suddenly. It is particularly useful with infants, and hence the origin of the name here affixed to it.

PULVIS NITROSUS.

Succ.

Nitrous powder.

Take of
- Purified nitre, three ounces;
- Salt of sorrel, one ounce;
- Double refined sugar, ten ounces.

Let them be mixed.

This is a very convenient and agreeable form of exhibiting nitre: for while the sugar serves not only to divide and diffuse it, but also to correct its taste, the salt of sorrel adds to its refrigerant power.

PULVIS PERUVIANUS PURGANS.

Gen.

Purging Peruvian powder.

Take of
- The powder of Peruvian bark, one ounce;
- Powder of rhubarb,
- Powder of sal ammoniac, each one dram and a half.

It has been imagined by many, that particular advantage resulted from uniting the Peruvian bark with sal ammoniac; and there can be no doubt, that in some cases inconvenience results from the bark, in consequence of its binding the belly. There are therefore circumstances in which the combination here proposed may perhaps be proper: but there is reason to believe that the benefit of the sal ammoniac is more imaginary than real; and it not unfrequently happens, that we are disappointed of the benefit which might otherwise be derived from the bark, in consequence of its proving even of itself a purgative. Hence, in perhaps a majority of cases, the exhibiting it with the additions here proposed will be rather prejudicial than otherwise.

PULVIS SEDATIVUS.

Succ.

Sedative powder.

Take of
- Opium, half a scruple;
- Purified nitre, five scruples and a half;
- Refined sugar, one ounce.

In this powder those inconveniences which sometimes result from opium may with certain constitutions be corrected, in consequence of the refrigerant power of nitre; and hence it may prove a very useful sedative powder. The sugar is intended merely to give form to the medicine; and in its state of combination, each dram of it contains a grain of opium; so that a practitioner has it in his power easily to regulate the dose according to circumstances.

PULVIS e SPONGIA.

Gen.

Sponge-powder.

Take of
- Burnt sponge, powdered,
- Common salt, each three drams.

Mix them, and divide into twelve powders.

We have formerly mentioned in the Materia Medica the use of burnt

ſponge in ſcrophulous affections, and particularly in the cure of the bronchocele. It has of late been highly celebrated for theſe purpoſes by Mr Wilmer, under the title of the Coventry remedy. There it was ſometimes employed merely in its pure ſtate, combined with a ſufficient quantity of honey, to form it into a bolus; ſometimes it was given united with calcined cork and pumice ſtone. What advantages, however, it could have derived from theſe additions is difficult to conceive; nor can we readily ſee how it will be improved by the addition of common ſea-ſalt here propoſed: for this may probably lead to new combinations, materially altering the qualities of thoſe ſalts which the ſponge itſelf contains; and on which its virtues, as far as it has any, muſt depend. At the ſame time, for any experience which we ourſelves have had, we are inclined to think, that theſe virtues which have been attributed to burnt ſponge are more imaginary than real.

CHAP. XXVI.

TROCHISCI.

TROCHES.

TROCHES and lozenges are compoſed of powders made up with glutinous ſubſtances into little cakes, and afterwards dried. This form is principally made uſe of for the more commodious exhibition of certain medicines, by fitting them to diſſolve ſlowly in the mouth, ſo as to paſs by degrees into the ſtomach; and hence theſe preparations have generally a conſiderable proportion of ſugar or other materials grateful to the palate. Some powders have likewiſe been reduced into troches, with a view to their preſervation; though poſſibly for no very good reaſons: for the moiſtening, and afterwards drying them in the air, muſt in this light be of greater injury, than any advantage accruing from this form can counterbalance.

General RULES *for making* TROCHES.

I.

THE three firſt rules laid down for making powders, are alſo to be obſerved in the powders for troches.

II.

If the maſs proves ſo glutinous as to ſtick to the fingers in making up, the hands may be anointed with any convenient ſweet or aromatic

romatic oil; or elſe ſprinkled with powder of ſtarch, or with that of liquorice.

III.

In order to thoroughly dry the troches, put them on an inverted ſieve, in a ſhady airy place, and frequently turn them.

IV.

Troches are to be kept in glaſs veſſels, or in earthen ones well glazed.

TROCHISCI AMYLI.

Lond.

Troches of ſtarch.

Take of
- Starch, an ounce and an half;
- Liquorice, ſix drams;
- Florentine orris, half an ounce;
- Double-refined ſugar, one pound and a half.

Rub theſe to powder, and, by the help of tragacanth, diſſolved in water, make troches.

They may be made, if ſo choſen, without the orris.

TROCHISCI BECHICI ALBI.

Edinb.

White pectoral troches.

Take of
- Pureſt ſugar, one pound;
- Gum Arabic, four ounces;
- Starch, one ounce;
- Flowers of benzoin, half a dram.

Having beat them all into a powder, make them into a proper maſs with roſe-water, ſo as to form troches.

These compoſitions are very agreeable pectorals, and may be uſed at pleaſure. They are calculated for ſoftening acrimonious humours, and allaying the tickling in the throat which provokes coughing.

Although not only the name but the compoſition alſo in the London and Edinburgh pharmacopœias be ſomewhat different, yet their effects are very much the ſame.

TROCHISCI GLYCYRRHIZÆ.

Lond.

Troches of liquorice.

Take of
- Extract of liquorice,
- Double-refined ſugar, of each ten ounces;
- Tragacanth, powdered, three ounces.

Make troches by adding water.

TROCHISCI BECHICI NIGRI.

Edin.

Black pectoral troches.

Take of
- Extract of liquorice,
- Gum Arabic, each four ounces;
- White ſugar, eight ounces.

Diſſolve them in warm water, and ſtrain: then evaporate the mixture over a gentle fire till it be of a proper conſiſtence for being formed into troches.

These compoſitions are deſigned for the ſame purpoſes as the white pectoral troches above deſcribed. In foreign pharmacopœias there are ſome other troches of this kind, under the titles of *Trochiſci bechici flavi* and *rubri;* the firſt are coloured with ſaffron, the latter with bole armenic. The diſſolving and ſtraining the extract of liquorice and gum Arabic, as now ordered in the laſt of the above preſcriptions, is a conſiderable improvement; not only as they are by that means more uniformly mixed than they can well be by beating; but likewiſe as they are thereby purified from the heterogeneous matters, of which both thoſe drugs have commonly no ſmall admixture.

TROCHISCI BECHICI cum OPIO.

Edin.

Pectoral troches with opium.

Take of
- Pure opium, two drams;
- Balsam of Peru, one dram;
- Tincture of Tolu, three drams.

Grind the opium with the balsam and tincture previously mixed, till it be thoroughly dissolved, then add by degrees,

Of
- Common syrup, eight ounces;
- Extract of liquorice, softened in warm water, five ounces.

Whilst beating them diligently, gradually sprinkle upon the mixture five ounces of powdered gum Arabic. Exsiccate so as to form troches, each weighing ten grains.

The directions for preparing the above troches are so full and particular, that no farther explanation is necessary. Six of the troches prepared in the manner here ordered, contain about one grain of opium. These troches are medicines of approved efficacy in tickling coughs depending on an irritation of the fauces. Besides the mechanical effect of the invisceating matters and involving acrid humours, or lining and defending the tender membranes, the opium, must, no doubt, have a considerable share, by more immediately diminishing the irritability of the parts themselves.

The composition of these troches, however, would perhaps be improved by the omission of the balsam of Peru: for although here directed only in small quantity, yet it gives a taste to the troches which is to many people very disagreeable; and it is at the same time probable, that it adds very little, if any thing, to the efficacy of the medicine.

TROCHISCI e NITRO.

Lond.

Troches of nitre.

Take of
- Purified nitre, powdered, four ounces;
- Double-refined sugar, powdered, one pound;
- Tragacanth, powdered, six ounces.

With the addition of water, make troches.

TROCHISCI e NITRO.

Edin.

Troches of nitre.

Take of
- Nitre, purified, three ounces;
- Double-refined sugar, nine ounces.

Make them into troches with mucilage of gum tragacanth.

This is a very agreeable form for the exhibition of nitre; though, when the salt is thus taken without any liquid (if the quantity be considerable), it is apt to occasion uneasiness about the stomach, which can only be prevented by large dilution with aqueous liquors. The trochisci e nitro have been said to be employed with success in some cases of difficult deglutition.

TROCHISCI e SULPHURE.

Lond.

Troches of sulphur.

Take of
- Washed flowers of sulphur, two ounces;
- Double-refined sugar, four ounces.

Rub them together; and, with the mucilage of quince-seeds, now and then added, make troches.

TROCHISCI e SULPHURE, sive DIASULPHURIS.

Edin.

Troches

Troches of sulphur.

Take of
Flowers of sulphur, two ounces;
Flowers of benzoine, one scruple;
White sugar, four ounces;
Factitious cinnabar, half a dram.
Beat them together, and add mucilage of gum tragacanth as much as is sufficient.
Mix and make them into troches according to art.

These compositions are to be considered only as agreeable forms for the exhibition of sulphur, no alteration or addition being here made to its virtue; unless that, by the flowers of benzoine in the second prescription, the medicine is supposed to be rendered more efficacious as a pectoral.

The factitious cinnabar seems chiefly intended as a colouring ingredient.

TROCHISCI e CRETA.

Lond.

Troches of chalk.

Take of
Chalk, prepared, four ounces;
Crabs-claws, prepared, two ounces;
Cinnamon, half an ounce;
Double-refined sugar, three ounces.
These being rubbed to powder, add the mucilage of gum Arabic, and make troches.

TROCHISCI e MAGNESIA.

Lond.

Troches of magnesia.

Take of
Burnt magnesia, four ounces;
Double-refined sugar, two ounces;
Ginger, powdered, one scruple.
With the addition of the mucilage of gum Arabic make troches.

These compositions are calculated against that uneasy sensation at the stomach, improperly called the *heartburn;* in which they often give immediate relief, by absorbing and neutralizing the acid juices that occasion this disorder. The absorbent powders here made use of, are of the most powerful kind. The former has in general the effect of binding, the latter of opening, the belly; and from this circumstance the practitioner will be determined in his choice, according to the nature of the case which he has occasion to treat.

TROCHISCI de MINIO.

Dan.

Red-lead troches.

Take of
Red lead, half an ounce;
Corrosive mercury sublimate, one ounce;
Crumb of the finest bread, four ounces.
Make them up with rose-water into oblong troches.

These troches are employed only for external purposes as escharotics: they are powerfully such, and require a good deal of caution in their use.

TROCHISCI CATECHU.

Brun.

Troches of catechu.

Take of
Catechu, one ounce;
White sugar-candy, two ounces;
Ambergris,
Musk, each ten grains;
Mucilage of gum tragacanth, as much as is sufficient.
Make them into troches.

This medicine has long been in esteem as a slight restringent; and restringents thus gradually received into

into the ſtomach produce better effects than when an equal quantity is taken down at once. Theſe troches would be more palatable, and perhaps no leſs ſerviceable, were the muſk and ambergris omitted.

CHAP. XXVII.

PILULÆ.

PILLS.

TO this form are peculiarly adapted thoſe drugs which operate in a ſmall doſe, and whoſe nauſeous and offenſive taſte or ſmell require them to be concealed from the palate.

Pills diſſolve the moſt difficultly in the ſtomach, and produce the moſt gradual and laſting effects, of all the internal forms. This is, in ſome caſes, of great advantage; in others, it is a quality not at all deſirable; and ſometimes may even be of dangerous conſequence, particularly with regard to emetics; which, if they paſs the ſtomach undiſſolved, and afterwards exert themſelves in the inteſtines, operate there as violent cathartics. Hence emetics are among us ſcarce ever given in pills; and hence to the reſinous and difficultly ſoluble ſubſtances, ſaponaceous ones ought to be added, in order to promote their ſolution.

Gummy reſins, and inſpiſſated juices, are ſometimes ſoft enough to be made into pills, without addition: where any moiſture is requiſite, ſpirit of wine is more proper than ſyrups or conſerves, as it unites more readily with them, and does not ſenſibly increaſe their bulk. Light dry powders require ſyrup or mucilages: and the more ponderous, as the mercurial and other metallic preparations, thick honey, conſerve, or extracts.

Light powders require about half their weight of ſyrup; of honey, about three-fourths their weight; to reduce them into a due conſiſtence for forming pills. Half a dram of the maſs will make five or ſix pills of a moderate ſize.

General RULES *for making* PILLS.

I.

Gums and inſpiſſated juices, are to be firſt ſoftended with the liquid preſcribed: then add the powders, and continue beating them all together till they be perfectly mixed.

II.

The maſſes for pills are beſt kept in bladders, which ſhould be moiſtened now and then with ſome of the ſame kind of liquid that the maſs was made up with, or with ſome proper aromatic oil.

PI-

PILULÆ ÆTHIOPICÆ.

Edin.

Ethiopic pills.

Take of
Quickſilver, ſix drams;
Golden ſulphur of antimony,
Reſin of guaiacum,
Honey, each half an ounce.

Grind the quickſilver with the honey, in a glaſs mortar, until the mercurial globules entirely diſappear; then add the golden ſulphur and guaiacum, with as much mucilage of gum Arabic as is ſufficient to make the mixture into a maſs of the proper conſiſtence for forming pills.

These pills are much more efficacious than thoſe of a former edition; the ethiops mineral, there ordered, being exchanged for a more active compoſition. In their preſent form, they reſemble Dr Plummer's pills, deſcribed in the Edinburgh Eſſays, and afterwards to be mentioned. To it they are preferable in one reſpect, that they are leſs apt to run off by ſtool. They are an uſeful alterative both in cutaneous and venereal diſorders. One fourth part of the quantity above preſcribed may be made into ſixty pills; of which, from one to four may be taken every night and morning, the patient keeping moderately warm during the whole time that this courſe is continued.

PILULÆ ex ALOE.

Lond.

Pills of aloes.

Take of
Socotorine aloes, powdered, one ounce;
Extract of gentian, half an ounce;
Syrup of ginger, as much as is ſufficient.

Beat them together.

PILULÆ ALOETICÆ.

Edin.

Aloetic pills.

Take of
Socotorine aloes, in powder,
Thick extract of gentian, each two ounces;

Make them into a maſs with ſimple ſyrup.

These pills were formerly directed to be made with Caſtile ſoap; from a notion which Boerhaave and ſome others were very fond of, that ſoap promoted the ſolution of reſinous and ſeveral other ſubſtances in the ſtomach. This, however, ſeems to be a miſtake; and, on the contrary, it is highly probable, that the alkaline part of the ſoap is in moſt inſtances ſeparated from the oily by the acid in the ſtomach; by which decompoſition the ſoap may come to retard inſtead of promoting the ſolution of the aloes. Theſe pills have been much uſed as warming and ſtomachic laxatives: they are very well ſuited for the coſtiveneſs ſo often attendant on people of ſedentary lives. Like other preparations of aloes, they are alſo uſed in jaundice, and in certain caſes of obſtructed menſes. They are ſeldom uſed for producing full purging; but if this be required, a ſcruple or half a dram of the maſs may be made into pills of a moderate ſize for one doſe.

PILULÆ ex ALOE CUM MYRRHA.

Lond.

Pills of aloes with myrrh.

Take of
Socotorine aloes, two ounces;
Myrrh,
Saffron, of each one ounce;
Syrup of ſaffron, as much as is ſufficient.

Rub the aloes and myrrh ſeparately to

to powder; afterwards beat them all together.

PILULÆ COMMUNES, vulgo RUFI.

Edin.

The common pills, vulgarly called *Rufus's pills.*

Take of
Socotorine aloes, two ounces;
Myrrh, one ounce;
Saffron, half an ounce.
Beat them into a mass with a proper quantity of syrup.

These pills have long continued in practice, without any other alteration than in the syrup which the mass is made up with, and in the proportion of saffron. In our last Pharmacopœia, the syrup of wormwood was ordered, which is here judiciously exchanged for that of saffron; this preserving and improving the brightness of colour in the medicine, which is usually looked upon as the characteristic of its goodness. The saffron, in the composition which is attributed to Rufus, is equal in quantity to the myrrh; and in these proportions the pill was received in our first Pharmacopœia. As the diminution afterwards made in the saffron was grounded on very absurd reasons, (viz. "lest the former quantity should occasion a "spasmus cynicus,") the London College have now again increased it, and restored the pill to its original form. The virtues of this medicine may be easily understood from its ingredients. These pills, given to the quantity of half a dram or two scruples, prove considerably cathartic; but they answer much better purposes in smaller doses as laxatives or alteratives.

PILULÆ ex COLOCYNTHIDE cum ALOE, vulgo PILULÆ COCCIÆ.

Edinb.

Colocynth pills with aloes, commonly called *Cocciæ.*

Take of
Socotorine aloes,
Scammony, of each two ounces;
Sal polychrest, two drams;
Colocynth, one ounce;
Oil of cloves, two drams.
Reduce the aloes and scammony into a powder with the salt; then let the colocynth, beat into a very fine powder, and the oil be added; lastly, make it into a proper mass with mucilage of gum Arabic.

In these pills we have a very useful and active purgative; and where the simple aloetic pill is not sufficient for obviating costiveness, this will often effectually answer the purpose. Little of their activity can depend upon the salt which enters the composition; but it may assist in dividing the active parts of the other articles, particularly the aloes and scammony. These pills often produce a copious discharge in cases of obstinate costiveness, when taken to the extent only of five or ten grains; but they may be employed in much larger doses. They are, however, seldom used with the view of producing proper catharsis. Half a dram of the mass contains about five grains of the colocynth, ten of the aloes, and ten of the scammony.

PILULÆ e CUPRO.

Edinb.

Copper pills.

Take of
Cuprum ammoniacum, sixteen grains;
Crumb of bread, four scruples;
Spirit of sal ammoniac, as much as is sufficient to form them into a mass, which is to be divided into thirty-two equal pills.

These

These pills had formerly the name of *Pilulæ cæruleæ*, but they are now with greater propriety denominated from the metal which is their basis.

Each of these pills weigh about three grains, and contain somewhat more than half a grain of the cuprum ammoniacum. The above pills seem to be the best form of exhibiting this medicine; for the effects of which, see Cuprum ammoniacum.

PILULÆ e GUMMI.

Lond.

Gum-pills.

Take of
- Galbanum,
- Opopanax,
- Myrrh,
- Sagapenum, of each one ounce;
- Asafœtida, half an ounce;
- Syrup of saffron, as much as is sufficient.

Beat them together.

PILULÆ GUMMOSÆ.

Edinb.

Gum-pills.

Take of
- Asafœtida,
- Galbanum,
- Myrrh, each one ounce;
- Rectified oil of amber, one dram.

Beat them into a mass with simple syrup.

These pills are designed for antihysterics and emmenagogues, and very well calculated for answering those intentions; half a scruple, a scruple, or more, may be taken every night or oftener. The fetid pills of our former pharmacopœia were considerably purgative: the purgative ingredients are now omitted, as the physician may easily, in extemporaneous prescription, compound these pills with cathartic medicines, in such proportions as particular cases shall require.

PILULÆ ex HYDRARGYRO.

Lond.

Quicksilver-pills.

Take of
- Purified quicksilver,
- Extract of liquorice, having the consistence of honey, of each two drams,
- Liquorice, finely powdered, one dram.

Rub the quicksilver with the extract of liquorice until the globules disappear; then, adding the liquorice-powder, mix them together.

PILULÆ e HYDRARGYRO, sive MERCURIALES.

Edin.

Mercurial pills.

Take of
- Quicksilver,
- Honey, each one ounce;
- Crumb of bread, two ounces.

Grind the quicksilver with the honey in a glass mortar till the globules disappear, adding occasionally a little simple syrup; then add the crumb of bread, and beat the whole with water into a mass, which is to be immediately divided into four hundred and eighty equal pills.

The quicksilver was formerly directed to be ground with resin of guaiacum and castile soap. The former was supposed to coincide with the virtues of the mercury, and the latter was used chiefly to divide the globules of mercury. For this last intention Doctor Saunders found that honey, the substance here ordered by the Edinburgh college, is of all he tried the most effectual: But we would suppose with this gentleman, that something farther is done in this process than the mere division of the mercurial globules, and that part of the quicksilver is as it were amalgamated with the

the honey, or brought to a ſtate ſimilar to that in Plenck's ſolution. The ſame effect will take place when the pills are prepared with extract of liquorice now directed by the London college.

The mercurial pill is one of the beſt preparations of mercury, and may in general ſuperſede moſt other forms of this medicine. It is neceſſary to form the maſs immediately into pills, as the crumb ſoon becomes too hard for that purpoſe. Soap was undoubtedly a very improper medium for triturating the mercury; it is not only too hard for that purpoſe, but when the preparation entered the ſtomach, the alkaline part of the ſoap being engaged by the acid in that viſcus, the mercury would in all probability be immediately ſeparated. The honey and bread can only be changed by the natural powers of digeſtion, and can never oppreſs the ſtomach. The doſe of the pills is from two to four or ſix in the day, according to the effects we wiſh to produce.

PILULÆ e JALAPPA.

Edin.

Jalap-pills.

Take of
Extract of jalap, two ounces;
Aromatic powder, half an ounce.
Beat them into a maſs with ſimple ſyrup.

This is an uſeful and active purgative, either for evacuating the contents of the inteſtinal canal, or producing a diſcharge from the ſyſtem in general.

One of the ſame kind, with powdered jalap in ſubſtance inſtead of the extract, is uſed in ſome of our hoſpitals, as a cheap and effectual purge.

PILULÆ PLUMMERI.

Edinb.

Plummer's pill.

Take of
Sweet mercury,
Precipitated ſulphur of antimony, each ſix drams;
Extract of gentian,
White Spaniſh ſoap, each two drams.
Let the mercury be triturated with the ſulphur till they be thoroughly mixed, then add the extract, and form a maſs with ſimple ſyrup.

These pills were recommended to the attention of the public about forty years ago by Dr Plummer, whoſe name they ſtill bear. He repreſented them in a paper which he publiſhed in the Edinburgh Medical Eſſays, as a very uſeful alterative; and on his authority they were at one time much employed; but they are now leſs extenſively uſed than formerly. And although they ſtill retain a place in the Edinburgh pharmacopœia, yet it is probable that every purpoſe to be anſwered by them may be more effectually obtained from the common mercurial pill, or from calomel in a more ſimple ſtate.

PILULÆ ex OPIO.

Lond.

Opium pills.

Take of
Hard purified opium, powdered, two drams;
Extract of liquorice, one ounce.
Beat them until they are perfectly united.

PILULÆ THEBAICÆ, vulgo PACIFICÆ.

Edinb.

Thebaic, commonly called *Pacific pills.*

Take

Take of
Opium, half an ounce;
Extract of liquorice, two ounces;
Castile soap, an ounce and a half;
Jamaica pepper, one ounce.
Soften the opium and extract separately with proof-spirit, and having beat them into a pulp, mix them; then add the soap, and the pepper beat into a powder; and lastly, having beat them well together, form the whole into a mass.

These two compositions, altho' differing in several particulars, may yet be considered as at bottom very much the same. The first is a simple opiate, in which every five grains of the mass contains one of opium; and in the opium alone can we suppose that the activity of the medicine depends.

Although some of the articles contained in the latter composition may perhaps be supposed to operate as corrigentia, yet the former composition, which is the most simple, is in general preferable.

Pills similar to the second were contrived by a chemical empiric, Starkey, and communicated by him to Matthews, under whose name they were some time ago greatly celebrated. The form here given differs considerably from the original, in omitting many ingredients of no great service. Nor indeed are any of the ingredients of much consequence, except the opium; their quantity being too inconsiderable to answer any useful purpose. Nine grains of the composition contain nearly one of opium.

PILULÆ e SCILLA.

Lond.

Squill-pills.

Take of
Fresh dried squill, powdered, one dram;
Ginger, powdered,
Soap, of each three drams;
Ammoniacum, two drams;
Syrup of ginger, as much as is sufficient.
Beat them together.

PILULÆ SCILLITICÆ.

Edin.

Squill pills.

Take of
Gum ammoniac,
Lesser cardamon seeds, in powder,
Extract of liquorice, each one dram;
Dried root of squills, in fine powder, one scruple.
Mix, and form them into a mass with simple syrup.

These are elegant and commodious forms for the exhibition of squills, whether for promoting expectoration, or with the other intentions to which that medicine is applied. As the virtue of the compound is chiefly from the squills, the other ingredients are often varied in extemporaneous prescription: and probably no material difference takes place in the two forms here proposed, excepting in the proportion of the squills, which in the former constitutes one eight, in the latter one ninth, of the mass.

PILULÆ STOMACHICÆ.

Edinb.

Stomachic pills.

Take of
Rhubarb, one ounce;
Socotorine aloes, six drams;
Myrrh, half an ounce;
Vitriolated tartar, one dram;
Essential oil of mint, half a dram;
Syrup of orange peel, a sufficient quantity.
Make them into a mass.

This pill is intended for moderately

rately warming and ſtrengthening the ſtomach, and evacuating crude viſcid humours. A ſcruple of the maſs may be taken twice a-day.

PILULÆ BACHERI.

Gen.

Bacher's pill.

Take of
- Extract of black hellebore,
- Purified myrrh, each one ounce;
- Powder of carduus benedictus, two ſcruples.

Mix them into a maſs according to art, to be dried in the air till it be fit for the formation of pills, each weighing one grain.

These pills have been ſtrongly recommended as a moſt effectual remedy in dropſical caſes, and have been alleged to unite an evacuant and tonic power. Hence they have been conſidered as particularly ſuited to thoſe caſes where remarkable weakneſs and laxity occurs. Under the hands of Mr Bacher the inventor, they acquired ſo great reputation, that after a trial in the military hoſpitals at Paris, the receipt was purchaſed by the French king, and publiſhed by authority. But like many other noſtrums ſince this publication, Bacher's pill has by no means ſupported the reputation which it had when kept a ſecret. The doſe is varied according to circumſtances, from one to thirty pills being taken in the courſe of the day.

PILULÆ ex ELATERIO.

Suec.

Pills of elaterium.

Take of
- The pureſt gum ammoniac, two ounces,
- Socotorine aloes,
- Gamboge, each two drams;
- Elaterium half a dram.

Mix them, by means of bitter tincture, into a maſs for the formation of pills, each weighing two grains.

This, as well as the former, is alſo a pill celebrated for the cure of dropſical affections. And the elaterium from which it derives its name, is one of the moſt powerful evacuants in the way of catharſis. Here, however, it is united with ſuch active articles, particularly the gamboge, as muſt make its effect ſomewhat doubtful. And we are inclined to think that a preferable formula for making the Pilulæ ex Elaterio, is to form it into a maſs, with the extract of gentian. This is imagined to have ſome influence as correcting its effect, in exciting ſickneſs at ſtomach. And when each pill is made to contain half a grain of the elaterium, the doſe may be eaſily accommodated to the circumſtances of the patient, one or two pills being taken every hour till they begin to operate.

The elaterium, whether under the form above mentioned, or in the more ſimple ſtate, which has now been ſuggeſted, operates as a very powerful cathartic, often inducing the diſcharge of ſtagnant ſerum, when other remedies are found ineffectual. But it can be exhibited only in thoſe caſes where the patient ſtill retains a conſiderable degree of ſtrength.

PILULÆ FOETIDÆ.

Suec.

Fætid-pills.

Take of
- Aſafœtida,
- Caſtor, each a dram and a half;
- Salt of amber, half a dram.
- Oil of hartſhorn, half a ſcruple;

Make them into a maſs, with tincture of myrrh, to be divided into pills of two grains each.

These, like the gum-pills formerly

merly mentioned, are chiefly used as an antihysteric and antispasmodic medicine; and they are particularly useful in counteracting spasmodic affections of the alimentary canal, especially those connected with flatulence. But the asafœtida is no less successful when exhibited in a more simple state, particularly when formed into pills with an equal quantity of soap, by the aid of simple syrup.

PILULÆ de GAMBOGIA.

Dan.

Gamboge pills.

Take of
- Socotorine aloes,
- Extract of black hellebore,
- Sweet mercury,
- Gamboge, each two drams;
- Distilled oil of juniper, half a dram;
- Syrup of buckthorn, as much as is sufficient for forming a mass of pills.

From the ingredients of which these pills are constituted, we need hardly remark, that they must prove a very powerful purgative. The gamboge, from which they derive their name, is unquestionably a very active one. But it is not more so than the mercurius dulcis; and perhaps from an union of these two, as much might be expected as from the more compounded formula here adopted. Yet it is not improbable, that the essential oil of juniper may in some degree operate as a corrigent.

PILULÆ e MERCURIO CORROSIVO ALBO.

Suec.

Pills of corrosive sublimate mercury.

Take of
- Corrosive sublimate,
- Purified sal ammoniac, each one scruple;
- Distilled water, as much as is sufficient to melt them;
- Powder of the root of althea, sixteen scruples;
- Honey, two drams.

Mix them into a mass for the formation of pills, each weighing three grains.

Corrosive sublimate in substance was long considered as being so violent in its effects, that it could not with safety be taken internally; but for a considerable time it has been used with advantage under the form of solution, either in water or spirits. But to both these a considerable objection occurs from their disagreeable brassy taste. This objection is however entirely obviated, by reducing the solution after it is formed to a solid mass, by means of the crumb of bread, or any proper powder: And by the aid of a little sal ammoniac, the solution may be made in a very small quantity of water; so that less of any solid intermedium will be sufficient to bring it to the form of pills. The formula here directed seems well suited for the purpose intended. Each of the pills contains about an eight of a grain of the corrosive; thus the dose may be easily regulated according to the intention in view. And these pills are not unfrequently employed with advantage, both in combating venereal and cutaneous affections, and for the expulsion of worms from the alimentary canal. With the latter of these intentions, a similar pill was particularly recommended by Dr Gardner, in a paper published in the Edinburgh Physical and Literary Essays. And although not received into our pharmacopœia, it has been frequently used at Edinburgh.

PILULÆ PICEÆ.

Dan.

Tar-pills.

Take any quantity of tar, and mix with it as much powdered elecampane root as will reduce it to a proper thickness for being formed into pills.

The powder here mixed with the tar, though of no great virtue, is nevertheless a very useful addition, not only for procuring it a due consistence, but likewise as it divides the resinous texture of the tar, and thus contributes to promote its solution by the animal juices. In the Edinburgh infirmary, half a dram of the mass, made into middle-sized pills, is given every morning and evening in disorders of the breast, scurvies, &c.

PILULÆ SAPONACEÆ.

Succ.

Soap-pills.

Take of

Hard white soap, two ounces;
Extract of birch, one ounce.

Let them be formed into a mass, to be divided into pills, each containing three grains.

Although many virtues have been attributed to the birch, yet we are inclined to think, that it here serves little other purpose than to aid in giving the form of pills to the soap. And this article, even when taken in small quantity with some constitutions, operates as a gentle laxative. But besides this, it has also been supposed to be highly useful both in cases of jaundice and of calculous. There can, however, be little doubt, that the theories on which it has been inferred, that it may be useful in such complaints, are not well founded; and we may perhaps add, that the use of it even to a great extent, is by no means attended with those consequences which were once alleged to arise from it.

PILULÆ e STYRACE.

Succ.

Storax-pills.

Take of

Strained storax, five scruples;
Extract of liquorice, three drams;
Opium, one dram.

Let the opium, dissolved in wine, be added to the other ingredients, so as to form a mass of proper consistence, to be made into pills, each weighing three grains.

These pills are principally active in consequence of the opium which they contain. And they are chiefly meant with a view to a slow solution in the stomach, and consequently producing more gradual and lasting effects. One grain of opium is contained in six grains of the mass.

CHAP. XXVIII.

ELECTUARIA.

ELECTUARIES.

ELECTUARIES are compoſed chiefly of powders mixed up with ſyrups, &c. into ſuch a conſiſtence, that the powders may not ſeparate in keeping, that a doſe may be eaſily taken up on the point of a knife, and not prove too ſtiff to ſwallow.

Electuaries receive chiefly the milder alterative medicines, and ſuch as are not ungrateful to the palate. The more powerful drugs, as cathartics, emetics, opiates, and the like (except in officinal electuaries to be diſpenſed by weight), are ſeldom truſted in this form, on account of the uncertainty of the doſe; diſguſtful ones, acrids, bitters, fetids, cannot be conveniently taken into it; nor is the form of an electuary well fitted for the more ponderous ſubſtances, as mercurials, theſe being apt to ſubſide in keeping, unleſs the compoſition be made very ſtiff.

The lighter powders require three their weight of honey, or ſyrup, boiled to the thickneſs of honey, to make them into the conſiſtence of an electuary; of ſyrups of the common conſiſtence, twice the weight of the powder is ſufficient.

Where the common ſyrups are employed, it is neceſſary to add likewiſe a little conſerve, to prevent the compound from drying too ſoon. Electuaries of Peruvian bark, for inſtance, made up with ſyrup alone, will often in a day or two grow too dry for taking.

Some powders, eſpecially thoſe of the leſs grateful kind, are more conveniently made up with mucilage than with ſyrup, honey, or conſerve. The three latter ſtick about the mouth and fauces, and thus occaſion the taſte of the medicine to remain for a conſiderable time; whilſt mucilages paſs freely, without leaving any taſte in the mouth. A little ſoft extract of liquorice, joined to the mucilage, renders the compoſition ſufficiently grateful, without the inconveniences of the more adheſive ſweets.

The quantity of an electuary, directed at a time, in extemporaneous preſcription, varies much according to its conſtituent parts, but it is rarely leſs than the ſize of a nutmeg, or more than two or three ounces.

General rules for making electuaries.

I.

The rules already laid down for decoctions and powders in general, are likewise to be observed in making decoctions and powders for electuaries.

II.

Gums, inspissated juices, and such other substances as are not pulverable, should be dissolved in the liquor prescribed: then add the powders by little and little, and keep the whole briskly stirring, so as to make an equable and uniform mixture.

III.

Astringent electuaries, and such as have pulps of fruits in their composition, should be prepared only in small quantities at a time: For astringent medicines lose greatly of their virtue on being kept in this form, and the pulps of fruits are apt to become sour.

IV.

The superfluous moisture of the pulps should be exhaled over a gentle fire, before the other ingredients are added to them.

V.

Electuaries, if they grow dry in keeping, are to be reduced to the due consistence, with the addition of a little Canary wine, and not with syrup or honey: by this means, the dose will be the least uncertain; a circumstance deserving particular regard, in those especially which are made up with syrup and contain a proportion of opium.

ELECTUARIUM e CASSIA.

Lond.

Electuary of cassia.

Take of

The fresh extracted pulp of cassia, half a pound;

Manna, two ounces;

Pulp of tamarinds, one ounce;

Rose-syrup, half a pound,

Beat the manna, and dissolve it over a slow fire in the rose-syrup; then add the pulps; and, with a continued heat, evaporate the whole to the proper thickness of an electuary.

ELECTUARIUM e CASSIA, vulgo DIACASIA.

Edinb.

Electuary of cassia, commonly called *Diacasia.*

Take of

Pulp of casia fistularis, six ounces;

Pulp of tamarinds,

Manna, each an ounce and a half;

Syrup of pale roses, six ounces;

Having beat the manna in a mortar, dissolve it with a gentle heat in the syrup; then add the pulps, and evaporate them with a regularly continued heat to the consistence of an electuary.

These compositions are very convenient officinals, to serve as a basis for purgative electuaries and other similar purposes; as the pulping a small quantity of the fruits, for extemporaneous prescription, is very troublesome. The tamarinds give them a pleasant taste, and do not subject them, as might be expected, to turn sour. After standing for four months, the composition has been found no sourer than when first made up. They are likewise usefully taken by themselves, to the quantity of two or three drams occasionally, for gently loosening the belly in costive habits.

ELECTUARIUM e SCAMMONIO.

Lond.

Electuary of scammony.

Take

Take of
- Scammony, in powder, one ounce and an half;
- Cloves,
- Ginger, of each ſix drams.
- Eſſential oil of caraway, half a dram;
- Syrup of roſes, as much as is ſufficient

Mix the ſpices, powdered together, with the ſyrup; then add the ſcammony, and laſtly the oil of caraway.

This electuary is a warm, briſk purgative. It is a reform of the *Electuarium caryocoſtinum* of our preceding diſpenſatories, a compoſition which was greatly complained of, as being inconvenient to take, on account of the largeneſs of its doſe. A dram and a half of this, which contains fifteen grains of ſcammony, is equivalent to half an ounce of the other.

ELECTUARIUM e SENNA.

Lond.

Electuary of ſenna.

Take of
- Senna, eight ounces;
- Figs, one pound;
- Pulp of tamarinds,
- —— of caſſia,
- —— of prunes, of each half a pound;
- Coriander-ſeeds, four ounces;
- Liquorice, three ounces;
- Double-refined ſugar, two pounds and an half.

Powder the ſenna with the coriander-ſeeds, and ſift out ten ounces of the mixt powder. Boil the remainder with the figs and liquorice, in four pints of diſtilled water, to one half; then preſs out and ſtrain the liquor. Evaporate this ſtrained liquor to the weight of about a pound and an half; then add the ſugar, and make a ſyrup; add this ſyrup by degrees to the pulps, and laſtly mix in the powder.

ELECTUARIUM LENITIVUM.

Edinb.

Lenitive electuary.

Take of
- Pulp of French prunes, one pound;
- Pulp of caſia,
- Pulp of tamarinds, each two ounces and a half;
- Black ſyrup of ſugar, commonly called *molaſſes*, one pound and a half;
- Senna leaves in fine powder, four ounces;
- Coriander ſeeds in fine powder, half an ounce.

Having boiled the pulps with the ſyrup to the conſiſtence of honey, add the powders, and beat the whole into an electuary.

This electuary, the name of which is with propriety changed by the London college, is now freed from ſome ſuperfluous ingredients which were left in it at former reviſals; viz. polypody roots, French mercury leaves, fenugreek ſeeds, and linſeed. Molaſſes is preferable to either honey or ſugar, as it coincides with the intention, and is not only of itſelf inapt to ferment, but likewiſe prevents ſuch ſubſtances as are this way diſpoſed from running into fermentation.

It is a very convenient laxative, and has long been in common uſe among practitioners. Taken to the quantity of a nutmeg or more, as occaſion may require, it is an excellent laxative for looſening the belly in coſtive habits.

ELECTUARIUM JAPONICUM, vulgo CONFECTIO JAPONICA.

Edin.

Japonic electuary, commonly called *Japonic confection.*

Take of
- Japan earth, four ounces;
- Gum kino, three ounces;
- Cinnamon,
- Nutmeg, each one ounce;
- Opium diffuſed in a ſufficient quantity of Spaniſh white wine, one dram and a half;
- Syrup of dried roſes boiled to the conſiſtence of honey, two pounds and a quarter.

Mix and form them into an electuary.

The ingredients in this electuary ſeem extremely well choſen, and are ſo proportioned to one another, that the quantity of opium is the ſame as in the diaſcordium of the former pharmacepœias of Edinburgh, viz. one grain in ten ſcruples. The gum kino, now ſubſtituted to the tormentil root, is an excellent improvement in the formula.

ELECTUARIUM JOVIALE.

Brun.

Tin electuary.

Take of
- Pure tin,
- Quickſilver, each one ounce.

Let them be formed into an amalgam; then add
- Oyſter ſhells, prepared, one ounce.

Reduce the whole to a powder.

Take of
- This powder,
- Conſerve of wormwood, each one ounce, and form an electuary with ſyrup of mint.

Tin, as we have already had occaſion to obſerve under the article Stannum Pulveratum, has long been celebrated for the expulſion of tænia. And it is alſo well known, that in mercury we have one of the moſt powerful of the tribe of anthelmintic. Such a combination as the preſent then, might be ſuppoſed well ſuited for the removal of that animal from the alimentary canal; and accordingly it has been alleged, that this electuary has ſometimes ſucceeded after other remedies have failed. It may be taken twice a-day, to the extent of two or three drams for a doſe.

ELECTUARIUM GINGIVALLE.

Suec.

Electuary for the gums.

Take of
- Powdered myrrh, three drams;
- Cream of tartar,
- Cochineal, each a dram and a half.

Grind them together in a glaſs mortar; then add
- Melted honey, four ounces;
- Cloves, in powder, one dram.

Myrrh, particularly under the form of tincture, has long been a favourite application to the gums, when in a ſpongy or ulcerated ſtate. But the ſpirituous menſtruum there employed, although ſometimes favouring the intention in view, in other inſtances occurs as an objection to its uſe. In theſe caſes, the benefit to be derived from the myrrh may be obtained from this electuary, which may always be applied with ſafety, and ſometimes with advantage.

ELECTUARIUM e MANNA.

Suec.

Electuary of manna.

Take of
- Manna;
- Refined ſugar, pounded,

Fennel-

Fennel-water, each two ounces.
Strain the mixture, using expression; then add
Fine powder of the root of florentine orrice, one dram;
Fresh drawn almond oil, one ounce.

In this electuary we have a gently emollient laxative, which is very useful in these cases, where obstipatio either arises from indurated feces, or is supported by that cause. But its cathartic powers are by no means considerable.

ELECTUARIUM NITROSUM.

Gen.

Nitrous electuary.

Take of
Purified nitre, half an ounce;
Conserve of roses, four ounces.
Mix them.

Under this formula, nitre may be introduced to a considerable extent, without giving uneasiness at stomach, while at the same time its refrigerant power is combined with the astringency of the roses. From these circumstances it may be advantageously employed in different cases, but particularly in instances of hæmoptysis.

ELECTUARIUM TEREBINTHINATUM.

Suec.

Terebinthinate electuary.

Take of
Spirit of turpentine, half an ounce;
Honey, one ounce;
Powder of liquorice, as much as is sufficient for the formation of an electuary.

Under this form, the oil of turpentine may be introduced with less uneasiness, than perhaps under almost any other. And it may thus be employed for different purposes, but particularly with a view to its diuretic power. But it has been especially celebrated for the cure of obstinate rheumatisms, and above all, for that modification of rheumatism which has the name of *ischias*, and which is found in many instances, obstinately to resist other modes of cure.

LINCTUS LENIENS.

Suec.

Lenient Linctus.

Take of
Gum arabic, bruised, two drams;
Cherry-water, half an ounce.
By trituration in a mortar, mix with them
Almond oil, fresh drawn,
Syrup of almonds, each seven ounces.

In this we have a very agreeable emollient linctus, highly useful in recent catarrhal affections, for lubricating the throat and fauces. It may be taken at pleasure to any extent that the stomach will easily bear.

CHAP. XXIX.

CONFECTIONES.

CONFECTIONS.

ALTHOUGH the London college have separated these from electuaries, yet they differ so little, that in most pharmacopœias they are ranked under the same head. And in that of Edinburgh, there are several articles which have promiscuously the name either of *confection* or *electuary*. But as no inconvenience arises from the separation; and as we have followed the order of the Edinburgh pharmacopœia in other particulars, it would be improper to deviate from it in this.

CONFECTIO AROMATICA.

Lond.

Aromatic confection.

Take of
Zedoary, in coarse powder,
Saffron, of each half an ounce;
Distilled water, three pints.
Macerate for twenty-four hours; then press and strain. Reduce the strained liquor, by evaporation, to a pint and a half, to which add the following, rubbed to a very fine powder:
Compound powder of crabs-claws, sixteen ounces;
Cinnamon,
Nutmegs, of each two ounces;
Cloves, one ounce;
Smaller cardamom-seeds, husked, half an ounce;
Double refined sugar, two pounds.
Make a confection.

THIS confection is composed of the more unexceptionable ingredients of a composition formerly held in great esteem, and which was called, from its author, CONFECTIO RALEIGHANA. The original confection was composed of no less than five and twenty particulars; each of which were examined apart, except one, *ros solis*, the flower of which is too small to be gathered in sufficient quantity for the general use of the medicine, and the plant is possessed of hurtful qualities, as is experienced in cattle that feed where it grows. In this examination, many of the extracts came out so very nauseous, that it was impossible to retain them, consistent with any regard to the taste of the composition. But some few, of equal efficacy with any of the rest, being of a tolerable taste and flavour, were compounded in different proportions; and when, after many trials, a composition was approved, the quantity of each material, that would yield the proportion of extract which entered that composition, was calculated,

ted, and from thence the proportions were collected as now set down: after which the compound extract was made, and found to answer expectation. The London college, in the present edition of their pharmacopœia, have still farther simplified this formula by rejecting the rosemary, juniper, and cardamoms, which formerly entered it.

The confection, as now reformed, is a sufficiently grateful and moderately warm cordial; and frequently given with that intention, from eight or ten grains to a scruple or upwards, in boluses and draughts. The formula might perhaps be still more simplified without any loss. The crabs-claw powder does not appear to be very necessary, and is inserted rather in compliance with the original, than from its contributing any thing to the intention of the medicine; and the following formula of the Edinburgh pharmacopœia seems to us preferable to that of the London, even in its present improved state.

ELECTUARIUM CARDIACUM vulgo CONFECTIO CARDIACA.

Edinb.

Cordial electuary, commonly called *Cordial confection.*

Take of
- Conserve of orange-peel, three ounces;
- Preserved nutmegs, an ounce and a half;
- Preserved ginger, six drams;
- Cinnamon, in fine powder, half an ounce;
- Syrup of orange-peel, as much as will form the whole into an electuary.

In the above simple and elegant formula, a number of trifling ingredients are rejected, and those substituted in their place are medicines of approved efficacy. We therefore consider this preparation as an useful remedy for the purposes expressed in its title.

CONFECTIO OPIATA.

Lond.

Confection of opium.

Take of
- Hard purified opium, powdered, six drams;
- Long pepper,
- Ginger,
- Caraway seeds, of each two ounces;
- Syrup of white poppy, boiled to the consistence of honey, three times the weight of the whole.

Mix the purified opium carefully with the heated syrup: then add the rest, rubbed to powder.

ELECTUARIUM THEBAICUM.

Edin.

Thebaic electuary.

Take of
- Powder of aromatics, six ounces;
- Virginian snake-root, in fine powder, three ounces;
- Opium, diffused in a sufficient quantity of Spanish white-wine, three drams;
- Clarified honey, thrice the weight of the powders.

Mix them, and form an electuary.

These compositions consist of very powerful ingredients, and are doubtless capable of answering every thing that can be reasonably expected from the more voluminous theriaca of Andromachus. The London college also had formerly their theriaca composed of the less exceptionable ingredients of Andromachus's. But as these medicines have for a long time been chiefly employed for external purposes, by the way of cataplasm, the *Theriaca Londinensis* is now omitted, and its place

place supplied by a cataplasm composed of a few well-chosen articles, under the name of *Cataplasma e cymino;* of which hereafter. For internal use, none of the theriacas are at present so much regarded as they have been heretofore; practitioners having introduced in their room extemporaneous boluses of Virginian snake-root, camphor, contrayerva, and the like; which answer all their intentions, with this advantage, that they may be given either with or without opium; an ingredient which renders the others prejudicial, in cases where they might otherwise be proper.

With regard to the quantity of opium in the foregoing compositions, one grain thereof is contained in thirty-six grains of the Confectio opiata, and in five scruples of the Thebaic electuary. The proportion of opium will vary a little, according to the time that they have been kept; their moisture by degrees exhaling, so as to leave the remainder stronger of the opium than an equal weight was at first. A change of this kind is taken notice of by many writers, but falsely attributed to an imaginary fermentative quality of the ingredients; by which they were supposed, from their multiplicity and contrariety, to be continually exhalting and improving the virtues of each other.

A good deal of care is requisite in making these compositions, to prevent the waste which is apt to happen in the pounding, and which would render the proportion of opium to the other ingredients precarious. The intention of dissolving the opium in wine, for these and other electuaries, is, that it may be more uniformly mingled with the rest.

These compositions fully supply the place of two articles, which tho' long banished from the shops, we shall here subjoin; as examples of the amazing height to which composition in medicine had at one time proceeded.

MITHRIDATIUM, sive CONFECTIO DAMOCRATIS.

Mithridate, or the confection of Democrates.

Take of
- Cinnamon, fourteen drams;
- Myrrh, eleven drams;
- Agaric,
- Indian nard,
- Ginger,
- Saffron,
- Seeds of mithridate mustard,
- Frankincense,
- Chio turpentine, each ten drams;
- Camels hay,
- Costus, or in its stead zedoary,
- Indean leaf, or in its stead mace,
- Stechas,
- Long pepper,
- Hartwort seeds,
- Hypocistis,
- Storax strained,
- Opoponax,
- Galbanum strained,
- Opobalsam, or in its stead expressed oil of nutmegs,
- Russia castor, each one ounce;
- Poley mountain,
- Scordium,
- Carpobalsam, or in its stead cubebs,
- White pepper,
- Candy carrot seed,
- Bdellium strained, each seven drams;
- Celtic nard,
- Gentian root,
- Dittany of Crete,
- Red roses,
- Macedonian parsley seed,
- Lesser cardamom seeds, husked,
- Sweet fennel seed,
- Gum Arabic,

Q

Opium ſtrained, each five drams;
Calamus aromaticus,
Wild valerian root,
Aniſeed,
Sagapenum, ſtrained, each three drams;
Meum athamanticum,
St John's wort,
Acacia, or in its ſtead terra Japonica,
Bellies of ſkinks, each two drams and a half;
Clarified honey, thrice the weight of all the other ingredients.

Warm the honey, and mix with it the opium diſſolved in wine; melt the ſtorax, galbanum, turpentine, and opobalſam (or expreſſed oil of nutmegs) together in another veſſel, continually ſtirring them about, to prevent their burning; with theſe ſo melted, mix the hot honey, at firſt by ſpoonfuls, and afterwards in larger quantities at a time; when the whole is grown almoſt cold, add by degrees the other ſpecies reduced into powder.

THERIACA ANDROMACHI.

Theriaca of Andromachus, or *Venice treacle.*

Take of
Troches of ſquills, half a pound;
Long pepper,
Opium, ſtrained,
Vipers, dried, each three ounces;
Cinnamon,
Opobalſam, or in its ſtead expreſſed oil of nutmegs, each two ounces;
Agaric,
Florence oris root,
Scordium,
Red roſes,
Navew ſeeds,
Extract of liquorice, each an ounce and a half;
Indian nard,
Saffron,
Amomum,
Myrrh,
Coſtus, or in its ſtead zedoary,
Camels hay, each one ounce;
Cinquefoil root,
Rhubarb,
Ginger,
Indian leaf, or in its ſtead mace,
Dittany of Crete,
Horehound leaves,
Calamint leaves,
Stechas,
Black pepper,
Macedonian parſley ſeed,
Olibanum,
Chio turpentine,
Wild valerian root, each ſix drams;
Gentian root,
Celtic nard,
Spignel,
Poley mountain, St John's wort, Groundpine } leaves,
Germander tops, with the ſeed,
Carpobalſam, or in its ſtead cubebs,
Aniſeed,
Sweet fennel ſeed,
Leſſer cardamom ſeeds, huſked,
Biſhops-weed, Hartwort, Treacle muſtard } ſeeds,
Hypociſtis,
Acacia, or in its ſtead Japan earth,
Gum Arabic,
Storax, ſtrained,
Sagapenum, ſtrained,
Terra Lemnia, or in its ſtead bole armenic or French bole,
Green vitriol calcined, each half an ounce;
Small (or in its ſtead, the long) birthwort root,
Leſſer centaury tops,
Candy carrot ſeed,
Opopanax,
Galbanum, ſtrained,

Ruſ-

Russia castor,
Jews pitch, or in its stead white amber, prepared,
Calamus aromaticus, each two drams;
Clarified honey, thrice the weight of all the other ingredients.

Let these ingredients be mixed together, after the same manner as directed in making the mithridate.

These celebrated electuaries are often mentioned by medical writers, and may serve as examples of the wild exuberance of composition which the superstition of former ages brought into vogue. The theriaca is a reformation of mithridate, made by Andromachus physician to Nero: the mithridate itself is said to have been found in the cabinet of Mithridates king of Pontus. The first publishers of this pompous arcanum were very extravagant in their commendations of its virtues; the principal of which was made to consist in its being a most powerful preservative against all kinds of venom; whoever took a proper quantity in a morning, was ensured from being poisoned during that whole day: this was confirmed by the example of its supposed inventor, who, as Celsus informs us, was by its constant use so fortified against the commonly reputed poisons, that none of them would have any effect upon him when he wanted their assistance. But the notions of poisons which prevailed in those ruder ages were manifestly erroneous. Before experience had furnished mankind with a competent knowledge of the powers of simples, they were under perpetual alarms from an apprehension of poisons, and busied themselves in contriving compositions which should counteract their effects, accumulating together all those substances which they imagined to be possessed of any degree of alexipharmac power. Hence proceed the voluminous antidotes which we meet with in the writings of the ancient physicians: yet it does not appear, that they were acquainted with any real poison, except the cicuta, aconitum, and bites of venomous beasts; and to these they knew of no antidote whatever. Even admitting the reality of the poisons, and the efficacy of the several antidotes separately, the compositions could no more answer the purposes expected from them, than the accumulating of all the medicinal simples into one form could make a remedy against all diseases.

Yet, notwithstanding the absurdity in the original intention of these medicines, and their enormity in point of composition, as they contain several powerful materials, whose virtues, tho' greatly prejudiced, yet are not destroyed, by their multiplicity and contrariety; the compounds have been found, from repeated experience, to produce very considerable effects, as warm opiate diaphoretics.

These compositions might without doubt be lopt of numerous superfluities, without any diminution of their virtues; yet as the effects of them, in their present form, are so well known, so much regard has been paid to ancient authority, as not to attempt a reformation of that kind. Altho' these forms were originally complex, yet subsequent additions had crept into them. Neither the description in verse of the elder Andromachus, nor the prose explanation of the younger, make any mention of the white pepper afterwards added to the theriaca; and the orris root, in the mithridate of our former pharmacopœias, is also a supernumerary ingredient, not warranted by

by the original: these therefore are rejected. Nor is the asarum in the mithridate grounded on any good authority: the verse it is taken from, is mutilated and corrupt; and the word which some, upon conjecture only, suppose to have been asarum, others, also upon conjecture, choose to read differently: till some emendation shall be better founded than merely upon critical guesses, this single species may be safely passed over without any prejudice to the medicine. None of the ancient descriptions afford any other light in this particular; for they either omit this ingredient, and others also, or abound with additions.

Another innovation on both these medicines also took place. In each of these compositions were found both cinnamon and casia lignea; and it is very evident, from several parts of Galen's works, that the latter was used by the ancients only upon account of the great difficulty of procuring the other; so that to retain the cassia, now that cinnamon is so common, is a blind following of these writers, without any attention to their meaning: the cassia therefore is now rejected, and half the quantity of cinnamon put in its room; which is the proportion that Galen directs to be observed in substituting the one for the other. It is probable, that the cafe is the same with regard to the Celtic and the Indian nard; that the first had a place in these compositions, on account of the difficulty of procuring the Indian; for Galen expressly prefers the latter.

There is a material error in regard to the theriaca, which has passed through several editions of our Pharmacopœia: this is, the substituting Roman vitriol to the ancient chalcitis, now not certainly known; and, in the catalogue of simples, describing the Roman to be a blue vitriol; whereas the Italian writers are unanimous it is a green vitriol; and were it not, it would not answer to the effects of the chalcitis, which was certainly a chalybeate, and gives the medicine its black colour. What has chiefly occasioned chalcitis to be supposed a cupreous vitriol, seems to be its name, derived from χαλκος, copper: but it is to be observed, that all vitriols were formerly imagined to proceed from copper, and were named accordingly: the green or martial vitriols are still called by the Germans *kupffer-wasser*, and by us *copperas*. It is probable, that the ancient chalcitis was no other than a native martial vitriol, calcined by the heat of those warm climates to a degree of yellowish red or coppery colour: and therefore the common green vitriol, thus calcined by art, very properly supplies its place.

The preparation of these medicines has been somewhat facilitated by omitting the *trochisci cypheos* used in the mithridate, and the *hedychroi* and *viperini* for the theriaca; and inserting their ingredients, after *Zwelffer*'s manner, in the compositions they are intended for. This is done in the theriaca very commodiously; the ingredients in these troches uniting with those in the theriaca itself into unbroken numbers. But to render the numbers equally simple in the mithridate, it was necessary to retrench a few odd grains from some of the articles, and make a small addition to some others. The proportions of the ingredients in the *trochisci cypheos* are adjusted from the original description in Galen; the numbers in our former pharmacopœia being very erroneous.

Both the London and Edinburgh colleges ventured at length to discard these

thefe venerable reliques. The Edinburgh college at firft fubftituted in their room an elegant and fimple form, equivalent to them both in efficacy, under the title of Theriaca Edinenfis, *Edinburgh Theriaca.* In latter editions, however, they have entirely banifhed the name of *theriaca* from their book, and have put in its place the more elegant compofition already mentioned, the Electuarium Thebaicum.

CHAP. XXX.

AQUÆ MEDICATÆ.

MEDICATED WATERS.

WE have already taken notice of many articles which are either diffolved in water or communicate their virtues to it. And in one fenfe of the word. thefe may be called *medicated waters.* Sometimes this impregnation is effected by the aid of heat, fometimes without it: and thus are formed decoctions, infufions, and the like. But among thofe articles referred to in this chapter, there takes place mere watery folution only, and they are ufed folely with the intention of acting topically in the way of lotion, injection, or at the utmoft of gargarifm.

AQUA ALUMINIS COMPOSITA.

Lond.

Compound alum-water.

Take of
Alum,
Vitriolated zinc, of each half an ounce;
Boiling diftilled water, two pints.
Pour the water on the falts in a glafs veffel, and ftrain.

THIS water was long known in our fhops under the title of *Aqua aluminofa Bateana.*

Bates directed the falts to be firft powdered and melted over the fire; but this is needlefs trouble, fince the melting only evaporates the aqueous parts, which are reftored again on the addition of the water. This liquor is ufed for cleanfing and healing ulcers and wounds; and for removing cutaneous eruptions, the part being bathed with it hot three or four times a-day. It is fometimes likewife employed as a collyrium; and as an injection in the gonorrhœa and fluor albus, when not accompanied with virulence.

AQUA

AQUA STYPTICA.

Edin.

Styptic water.

Take of
Blue vitriol,
Alum, each three ounces;
Water, two pounds.
Boil them until the ſalts be diſſolved; then filtre the liquor, and add an ounce and a half of vitriolic acid.

This water, though made with the blue in place of the white vitriol, cannot be conſidered as differing very much from the former. It is formed upon the ſtyptic, recommended by Sydenham, for ſtopping bleeding at the noſe, and other external hæmorrhagies: for this purpoſe cloths or doſſils are to be dipt in the liquor, and applied to the part.

AQUA CUPRI AMMONIATI.

Lond.

Water of ammoniated copper.

Take of
Lime-water, one pint;
Sal ammoniac, one dram.
Let them ſtand together, in a copper veſſel, till the ammonia be ſaturated.

AQUA SAPHARINA.

Edinb.

Sapphire coloured water.

Take of
Lime-water, newly made, eight ounces;
Sal ammoniac, two ſcruples;
Verdegris, beat, four grains.
Mix them, and after twenty-four hours ſtrain the liquor.

This is a much more elegant and convenient method than the preceding.

This water is at preſent pretty much in uſe as a detergent of foul and obſtinate ulcers, and for taking away ſpecks or films in the eyes. The copper contributes more to its colour than to its medicinal efficacy; for the quantity of the metal diſſolved is extremely ſmall.

AQUA LITHARGYRI ACETATI COMPOSITA.

Lond.

Compound water of acetated litharge.

Take of
Acetated water of litharge, two drams;
Diſtilled water, two pints;
Proof-ſpirit of wine, two drams.
Mix the ſpirit of wine with the acetated water of litharge; then add the diſtilled water.

This liquor is of the ſame nature with ſolutions of *ſaccharum ſaturni*, and is analogous to the Vegeto-mineral water of Mr Goulard. It is only uſed externally, as a coſmetic againſt cutaneous eruptions, redneſs, inflammation, &c. But even here, it is alleged that it is not altogether void of danger; and that there are examples of its continued employment having occaſioned ſundry ill conſequences. But at the ſame time the very frequent uſe that is made of it with perfect impunity, would lead us to conclude, that in theſe obſervations there muſt be ſome miſtake.

AQUA ZINCI VITRIOLATI CUM CAMPHORA.

Lond.

Water of vitriolated zinc with camphor.

Take of
Vitriolated zinc, half an ounce;
Camphorated ſpirit, half an ounce;
Boiling water, two pints.
Mix, and filter through paper.

This is an improved method of forming the Aqua vitriolica camphorata of the former editions of the Lon-

London pharmacopœia. It is used externally as a lotion for some ulcers, particularly those in which it is necessary to restrain a great discharge. It is also not unfrequently employed as a collyrium in some cases of ophthalmia, where a large discharge of watery fluid takes place from the eyes with but little inflammation. But when it is to be applied to this tender organ, it ought at first, at least, to be diluted by the addition of more water.

AQUA VITRIOLICA.
Edin.
Vitriolic water.

Take of
White vitriol, sixteen grains;
Water, eight ounces;
Weak vitriolic acid, sixteen drops.
Dissolve the vitriol in the water, and then adding the acid, strain through paper.

Where the eyes are watery or inflamed, this solution of white vitriol is a very useful application: the slighter inflammations will frequently yield to this medicine, without any other assistance: in the more violent ones, venæsection and cathartics are to be premised to its use.

CHAP. XXXI.

EMPLASTRA.

PLASTERS.

Plasters are composed chiefly of oily and unctuous substances, united with powders into such a consistence, that the compound may remain firm in the cold without sticking to the fingers; that it may be soft and pliable in a low degree of heat, and that by the warmth of the human body it be so tenacious as readily to adhere both to the part on which it is applied, and to the substance on which it is spread.

There is, however, a difference in the consistence of plasters, according to the purposes they are to be applied to: Thus, such as are intended for the breast and stomach should be very soft and yielding; whilst those designed for the limbs are made firmer and more adhesive. An ounce of expressed oil, an ounce of yellow wax, and half an ounce of any proper powder, will make a plaster of the first consistence; for a hard one, an ounce more of wax, and

and half an ounce more of powder may be added. Plasters may likewise be made of resins, gummy-resins, &c. without wax, especially in extemporaneous prescription: for officinals, these compositions are less proper, as they soon grow too soft in keeping, and fall flat in a warm air.

It has been supposed, that plasters might be impregnated with the specific virtues of different vegetables, by boiling the recent vegetable with the oil employed for the composition of the plaster. The coction was continued till the herb was almost crisp, with care to prevent the matter from contracting a black colour: after which the liquid was strained off, and set on the fire again, till all the aqueous moisture had exhaled. We have already observed, that this treatment does not communicate to the oils any very valuable qualities even when to be used in a fluid state: much less can plasters, made with such oils, receive any considerable efficacy from the herbs.

Calces of lead, boiled with oils, unite with them into a plaster of an excellent consistence, and which makes a proper basis for several other plasters.

In the boiling of these compositions, a quantity of water must be added, to prevent the plaster from burning and growing black. Such water, as it may be necessary to add during the boiling, must be previously made hot; for cold liquor would not only prolong the process, but likewise occasion the matter to explode, and be thrown about with violence, to the great danger of the operator: this accident will equally happen upon the addition of hot water, if the plaster be extremely hot.

EMPLASTRUM AMMONIACI CUM HYDRARGYRO.

Lond.

Ammoniacum plaster with quicksilver.

Take of
- Strained ammoniacum, one pound;
- Purified quicksilver, three ounces;
- Sulphurated oil, one dram, or what is sufficient.

Rub the quicksilver with the sulphurated oil until the globules disappear; then add, by a little at a time, the melted ammoniacum, and mix them.

This is a very well contrived mercurial plaster. The ammoniacum in general affords a good basis for the application of the mercury. In some cases, however, it is not sufficiently adhesive. But this inconvenience, when it does occur, may be readily remedied by the addition of a small quantity of turpentine.

EMPLASTRUM CANTHARIDIS.

Lond.

Plaster of Spanish flies.

Take of
- Spanish flies, one pound;
- Plaster of wax, two pounds;
- Prepared hog's lard, half a pound.

Having melted the plaster and lard, a little before they coagulate sprinkle in the flies, reduced to a very fine powder.

EMPLASTRUM VESICATORIUM.

Edinb.

Blistering plaster, or *Epispastic plaster.*

Take of
- Hog's lard,
- Yellow wax,
- White resin,

Cantharides, each equal weights.
Beat the cantharides into a fine powder, and add them to the other ingredients, previously melted, and removed from the fire.

Both these formulæ are very well suited to answer the intention in view, that of exciting blisters; for both are of a proper consistence and sufficient degree of tenacity, which are here the only requisites. Cantharides of good quality, duly applied to the skin, never fail of producing blisters. When, therefore, the desired effect does not take place, it is to be ascribed to the flies either being faulty at first, or having their activity afterwards destroyed by some accidental circumstance; such as too great heat in forming, in spreading the plaster, or the like. And when due attention is paid to these particulars, the simple compositions now introduced answer the purpose better than those compound plasters with mustard-seed, black pepper, vinegar, verdegris, and the like, which had formerly a place in our pharmacopœias. It is not however improbable, that the pain of blistering-plasters might be considerably diminished by the addition of a proportion of opium, without preventing the good effects otherwise to be derived from them.

EMPLASTRUM CERÆ.

Lond.

Wax-plaster.

Take of
Yellow wax,
Prepared mutton-suet, of each three pounds;
Yellow resin, one pound.
Melt them together, and strain the mixture whilst it is fluid.

EMPLASTRUM CEREUM.

Edin.

Wax-plaster.

Take of
Yellow wax, three parts;
White resin,
Mutton-suet, each two parts.
Melt them together into a plaster; which supplies the place of melilot plaster.

This plaster had formerly the title of *Emplastrum attrahens*, and was chiefly employed as a dressing after blisters, to support some discharge.

It is a very well contrived plaster for that purpose. It is calculated to supply the place of melilot plaster; whose great irritation, when employed for the dressing of blisters, has been continually complained of. This was owing to the large quantity of resin contained in it, which is here on that account retrenched. It would seem that, when designed only for dressing blisters, the resin ought to be entirely omitted, unless where a continuance of the pain and irritation, excited by the vesicatory, is required. Indeed plasters of any kind are not very proper for this purpose: their consistence makes them sit uneasy, and their adhesiveness renders the taking them off painful. Cerates, which are softer and less adhesive, appear much more eligible: the *Ceratum spermatis ceti* will serve for general use; and for some particular purposes, the *Ceratum resinæ flavæ* may be applied.

EMPLASTRUM CUMINI.

Lond.

Cummin plaster.

Take of
The seeds of cummin,
——— caraway,
Bay-berries, of each three ounces;
Burgundy pitch, three pounds;
Yellow wax, three ounces.
Mix, with the melted pitch and wax, the

the rest of the ingredients, powdered, and make a plaster.

This plaster stands recommended as a moderately warm discutient; and is directed by some to be applied to the hypogastric region, for strengthening the viscera, and expelling flatulencies: but it is a matter of great doubt, whether it derives any virtue either from the article from which it is named, or from the caraway or bay-berries which enter its composition.

EMPLASTRUM FŒTIDUM, vulgo ANTIHYSTERICUM.

Edin.

Fetid, commonly called *Antihysteric-plaster.*

Take of
- Common plaster,
- Asafœtida, strained, each two parts;
- Yellow wax,
- Strained galbanum, each one part.

Mix, and make them into a plaster.

This plaster is applied to the umbilical region, or over the whole abdomen, in hysteric cases; and sometimes with good effect; but probably more from its effect as giving an additional degree of heat to the part, than from any influence derived from the fetid gums. It has indeed been alleged, that from the application of this plaster to the abdomen, the taste of asafœtida can be distinctly perceived in the mouth; and it is not improbable, that some absorption of its active parts may take place by the lymphatic vessels of the surface; while, at the same time, the asafœtida thus applied must constantly, in some degree, act on the nerves of the nose. But, in both these ways, its influence can be inconsiderable only; and much more effect may be obtained from a very small quantity taken internally. And we are upon the whole inclined to think, that the addition of the fetid gums to the common plaster is here more disagreeable than useful.

EMPLASTRUM LADANI.

Lond.

Ladanum-plaster.

Take of
- Ladanum, three ounces;
- Frankincense, one ounce;
- Cinnamon, powdered,
- Expressed oil, called oil of mace, of each half an ounce;
- Essential oil of spearmint, one dram.

To the melted frankincense add first the ladanum, softened by heat; then the oil of mace Mix these afterwards with the cinnamon and oil of mint, and beat them together in a warm mortar, into a plaster. Let it be kept in a close vessel.

This has been considered as a very elegant stomach plaster. It is contrived so as to be easily made occasionally (for these kinds of compositions, on account of their volatile ingredients, are not fit for keeping), and to be but moderately adhesive, so as not to offend the skin, and that it may without difficulty be frequently taken off and renewed; which these sorts of applications, in order to their producing any considerable effect, require to be. But after all, it probably acts more from the mere covering which it gives to the stomach, than from any of the articles abounding with essential oil which it contains.

EMPLASTRUM LITHARGYRI.

Lond.

Litharge-plaster

Take of
Litharge, in very fine powder, five pounds.
Olive-oil, a gallon.
Boil them, with a slow fire, in about two pints of water, constantly stirring until the oil and litharge unite, and have the consistence of a plaster. But it will be proper to add more boiling water, if the water that was first added be nearly consumed before the end of the process.

EMPLASTRUM COMMUNE.

Edin.

Common plaster.

Take of
Oil olive, two parts;
Litharge, one part.
Boil them, adding water, and constantly stirring the mixture till the oil and litharge be formed into a plaster.

The heat in these processes should be gentle, and the matter kept continually stirring, otherwise it swells up, and is apt to run over the vessel. If the composition proves discoloured, the addition of a little white lead and oil will improve the colour.

These plasters, which have long been known under the name of *Diachylon*, are the common application in excoriations of the skin, slight flesh wounds, and the like. They keep the part soft, and somewhat warm, and defend it from the air, which is all that can be expected in these cases from any plaster Some of our industrious medicine-makers have thought these purposes might be answered by a cheaper composition, and accordingly have added a large quantity of common whiting and hogs-lard: this, however, is by no means allowable, not only as it does not stick so well, but likewise as the lard is apt to grow rancid and acrimonious. The counterfeit is distinguishable by the eye.

EMPLASTRUM LITHARGYRI CUM GUMMI.

Lond.

Litharge-plaster with gum.

Take of
Litharge-plaster, three pounds;
Strained galbanum, eight ounces;
Turpentine, ten drams;
Frankincense, three ounces.
The galbanum and turpentine being melted with a slow fire, mix with them the powdered frankincense, and afterwards the litharge-plaster, melted also with a very slow fire, and make a plaster.

EMPLASTRUM GUMMOSUM.

Edinb.

Gum-plaster.

Take of
Common plaster, eight parts;
Gum ammoniacum, strained,
Strained galbanum,
Yellow wax, each one part.
Make them into a plaster according to art.

Both these plasters are used as digestives and suppuratives; particularly in abscesses, after a part of the matter has been maturated and discharged, for suppurating or discussing the remaining hard part; but it is very doubtful whether they derive any advantage from the gums entering their composition.

EMPLASTRUM LITHARGYRI CUM HYDRARGYRO.

Lond.

Litharge-plaster with quicksilver.

Take of
Litharge-plaster, one pound;
Purified quicksilver, three ounces;

Sul-

Sulphurated oil, one dram, or what is sufficient.

Make the plaster in the same manner as the ammoniacum-plaster with quicksilver.

EMPLASTRUM e HYDRARGYRO, sive COERULEUM.

Edin.

Mercurial, or *blue plaster.*

Take of
- Olive oil,
- White resin, each one part;
- Quicksilver, three parts;
- Common plaster, six parts.

Let the quicksilver be ground with the oil and resin, melted together, and then cooled till the globules disappear; then add by degrees the common plaster, melted, and let the whole be accurately mixed.

These mercurial plasters are looked on as powerful resolvents and discutients, acting with much greater certainty with these intentions than any composition of vegetable substances alone; the mercury exerting itself in a considerable degree, and being sometimes introduced into the habit in such quantity as to affect the mouth. Pains in the joints and limbs from a venereal cause, nodes, tophi, and beginning indurations of the glands, are said sometimes to yield to them.

EMPLASTRUM LITHARGYRI CUM RESINA.

Lond.

Litharge plaster with resin.

Take of
- Litharge-plaster, three pounds;
- Yellow resin, half a pound.

Mix the powdered resin with the litharge-plaster, melted with a very slow fire, and make a plaster.

EMPLASTRUM ADHÆSIVUM.

Edinb.

Sticking-plaster.

Take of
- Common plaster, five parts;
- White resin, one part.

Melt them together, so as to make a plaster.

These plasters are used chiefly as adhesives for keeping on other dressings, &c.

EMPLASTRUM PICIS BURGUNDICÆ.

Lond.

Plaster of Burgundy pitch.

Take of
- Burgundy pitch, two pounds;
- Ladanum, one pound;
- Yellow resin,
- Yellow wax, of each four ounces;
- The expressed oil, commonly called the oil of mace, one ounce.

To the pitch, resin, and wax, melted together, add first the ladanum, and then the oil of mace.

This plaster was at one time much celebrated under the title of *Emplastrum cephalicum,* the name which it formerly held in our pharmacopœias. It was applied in weakness or pains of the head, to the temples, forehead, &c. and sometimes likewise to the feet. Schulze relates, that an inveterate rheumatism in the temples, which at times extended to the teeth, and occasioned intolerable pain, was completely cured in two days by a plaster of this kind (with the addition of a little opium) applied to the part, after many other remedies had been tried in vain. He adds, that a large quantity of liquid matter exuded under the plaster in drops, which were so acrid as to corrode the cuticle: but it is probable, that this

was much more the effect of the Burgundy pitch than of any other part of the compoſition; for when applied to very tender ſkin, it often produces even veſication, and in moſt inſtances operates as a rubefacient or emplaſtrum callidum: and as far as it has any good effect in headach, it is probable that its influence is to be explained on this ground.

EMPLASTRUM SAPONIS.

Lond.

Soap-plaſter.

Take of
Soap, half a pound;
Litharge-plaſter, three pounds;
Mix the ſoap with the melted litharge-plaſter, and boil them to the thickneſs of a plaſter.

EMPLASTRUM SAPONACEUM.

Edin.

Saponaceous plaſter.

Take of
Common plaſter, four parts;
Gum plaſter, two parts;
Caſtile ſoap, ſliced, one part.
To the plaſters, melted together, add the ſoap; then boil for a little, ſo as to form a plaſter.

These plaſters have been ſuppoſed to derive a reſolvent power from the ſoap; and in the laſt, the addition of the gums is ſuppoſed to promote the reſolvent virtue of the ſoap: but it is a matter of great doubt, whether they derive any material advantage from either addition.

EMPLASTRUM THURIS.

Lond.

Frankincenſe-plaſter.

Take of
Frankincenſe, half a pound;
Dragon's blood, three ounces;
Litharge-plaſter, two pounds.
To the melted litharge-plaſter add the reſt, powdered.

This plaſter had formerly in the London pharmacopœia the title of *Emplaſtrum roborans*, and is a reformation of the complicated and injudicious compoſition deſcribed in former pharmacopœias, under the title of *Emplaſtrum ad herniam.* Though far the moſt elegant and ſimple, it is as effectual for that purpoſe as any of the medicines of this kind. If conſtantly worn with a proper bandage, it will, in children, frequently do ſervice; though, perhaps, not ſo much from any ſtrengthening quality of the ingredients, as from its being a ſoft, cloſe, and adhesive covering It has been ſuppoſed that plaſters compoſed of ſtyptic medicines conſtringe and ſtrengthen the part to which they are applied, but on no very juſt foundation; for plaſters in general relax rather than aſtringe, the unctuous ingredients neceſſary in their compoſition counteracting and deſtroying the effect of the others.

EMPLASTRUM DEFENSIVUM, ſive ROBORANS.

Edin.

Defenſive, or *Strengthening plaſter.*

Take of
Common plaſter, twenty-four parts;
White reſin, ſix parts;
Yellow wax,
Oil olive, each three parts;
Colcothar of vitriol, eight parts.
Grind the colcothar with the oil, and then add it to the other ingredients when they are melted.

This plaſter is laid round the lips of wounds and ulcers over the other dreſſings, for defending them from inflammation and a fluxion of humours; which, however, as Mr Sharp very juſtly obſerves, plaſters, on

on account of their consistence, tend rather to bring on than to prevent. It is also used in weaknesses of the large muscles, as of the loins; and its effects seem to proceed from the artificial mechanical support given to the part; which may also be done by any other plaster which adheres with equal firmness.

EMPLASTRUM de BELLADONNA.

Brun.

Deadly night-shade plaster.

Take of
- The juice of the recent herb of belladonna,
- Linseed-oil, each nine ounces;
- Yellow wax, six ounces;
- Venice turpentine, six drams;
- Powder of the herb of belladonna, two ounces.

Let them be formed into a plaster according to art.

There can be no doubt, that the belladonna, externally applied, has a very powerful influence, both on the nerves and blood-vessels of the part; and thus it has very considerable effect both on the circulation and state of sensibility of the part; and when applied under the form of this plaster, especially in affections of the mammæ and scrotum, it has been said to have very powerful influence in alleviating pain, in discussing tumours, and in promoting a favourable suppuration. It has however been but little employed in this country; and we can say nothing of it from our own experience.

EMPLASTRUM ad CLAVOS PEDUM.

Dan.

Plaster for corns in the feet.

Take of
- Galbanum, dissolved in vinegar; and again inspissated, one ounce;
- Pitch, half an ounce;
- Diachylon, or common plaster, two drams.

Let them be melted together; and then mix with them,
- Verdegris, powdered,
- Sal ammoniac, each one scruple;

And make them into a plaster.

Of this plaster, as well as the former, we can say nothing from our own experience. It has been celebrated for the removal of corns, and for alleviating that pain which they occasion; and it is not improbable that it may sometimes have a good effect from the corrosive articles which it contains: but in other cases, from this very circumstance, it may tend to aggravate the pain, particularly in the first instance.

EMPLASTRUM e CONIO.

Suec.

Hemlock-plaster.

Take of
- Yellow wax, half a pound;
- Oil olive, four ounces;
- Gum ammoniacum, half an ounce;

After they are melted together, mix with them,
- Powdered herb of hemlock, half an ounce.

This corresponds very nearly with the Emplastrum de cicuta cum ammoniaco, which had formerly a place in our pharmacopœias, and was supposed to be a powerful cooler and discutient, and to be particularly serviceable against swellings of the spleen and distentions of the hypochondres. For some time past, it has been among us entirely neglected; but the high resolvent power which Dr Stoerk has discovered in hemlock, and which he found it to exert in this as well as in other forms,

forms, intitle it to further trials. The plaster appears very well contrived, and the additional ingredients well chosen for assisting the efficacy of the hemlock.

EMPLASTRUM CORROSIVUM.

Gen.

Corrosive-plaster.

Take of
- Corrosive sublimate mercury, half a dram;
- Hogs-lard, half an ounce;
- Yellow wax, two drams.

Mix them according to art.

There can be no doubt that the hydrargyrus muriatus here employed is a very powerful corrosive; and there may be some cases in which it is preferable to other articles of the tribe of caustics: But this would seem to be a very unœconomical mode of applying it, as but a very small portion of what enters the plaster can act; and even that portion must have its action much restrained by the unctuous matters with which it is combined.

EMPLASTRUM e FŒNUGRÆCO, vulgo de MUCILAGINIBUS.

Gen.

Plaster of Fœnugreek, or of *Mucilages.*

Take of
- Fœnugreek-seed, two ounces;
- Linseed-oil, warm, half a pound.

Infuse them according to art, and strain; then,

Take of
- Yellow wax, two pounds and a half;
- Gum ammoniacum, strained, six ounces;
- Turpentine, two ounces.

Melt the gum ammoniacum with the turpentine, and by degrees add the oil and wax, melted in another vessel, so as to form a plaster.

This plaster had formerly a place in our pharmacopœias, but was rejected: and although still held in esteem by some, it is probably of no great value; at least, it would seem to derive but little either from the fœnugreek seed, with which it is now made, or from the oil of mucilages which formerly entered its composition.

EMPLASTRUM ex HYOSCIAMI.

Suec.

Henbane-plaster.

This is directed to be prepared in the same manner as the emplastrum e conio, or hemlock-plaster.

From the well known sedative power of this plant, as affecting the nervous energy of the part to which it is applied, we might reasonably conclude that good effects may be obtained from it when used under the form of plaster; and accordingly it has been with advantage employed in this manner, for allaying pain and resolving swelling, in cases of scirrhus and cancer.

EMPLASTRUM PICEUM.

Ross.

Pitch-plaster.

Take of
- White resin, six ounces;
- Ship-pitch, seven ounces;
- Yellow wax, five ounces.

Melt them, and form them into a plaster.

Pitch, applied externally, has been supposed to act upon two principles, by its warmth and by its adhesive quality. In the former way it may have some effect; but it has much more influence in the latter; and particularly it has thus been

been found to produce a cure in cases of tinea capitis. When a pitch-plaster is applied to the affected part of the hairy scalp, and allowed to remain there for a few days, it becomes so attached to the parts, that it cannot be removed without bringing with it the bulbs of the hair in which the disease is seated: and by this means a radical cure is not unfrequently obtained, after every other remedy has been tried in vain. But the cure is both a painful one, and not without danger: for in some instances, inflammations, even of an alarming nature, have been excited by the injury thus done to the parts. Hence this mode of cure is rarely had recourse to till others have been tried without effect: and when it is employed, if the disease be extensive, prudent practitioners direct its application only to a small portion at a time, the size of a crown-piece or so; and after one part is fully cured, by application to another in succession, the affection may in no long time be completely overcome. With this intention it is most common to employ the pitch in its pure state: but the plaster here directed, while it is no less adhesive, is more manageable and flexible.

CHAP. XXXII.

UNGUENTA ET LINIMENTA.

OINTMENTS AND LINIMENTS.

OINTMENTS and liniments differ from plasters little otherwise than in consistence. Any of the officinal plasters, diluted with so much oil as will reduce it to the thickness of stiff honey, forms an ointment: by farther increasing the oil, it becomes a liniment.

In making these preparations, the Edinburgh college direct, that fat and resinous substances are to be melted with a gentle heat; then to be constantly stirred, sprinkling in at the same time the dry ingredients, if any such are ordered, in the form of a very fine powder, till the mixture on diminishing the heat becomes stiff.

It is to be understood that the above general directions are meant to apply to each particular composition contained in the present edition of the Edinburgh Pharmacopœia. It is also to be observed, that where any compositions are ordered, as bases or ingredients of others; the College always refer to those made according to their own formula.

UN-

UNGUENTUM ADIPIS SUILLÆ.

Lond.

Ointment of hog's lard.

Take of
Prepared hog's lard, two pounds;
Roſe-water, three ounces.

Beat the lard with the roſe-water until they be mixed; then melt the mixture with a ſlow fire, and ſet it apart that the water may ſubſide; after which, pour off the lard from the water, conſtantly ſtirring until it be cold.

In the laſt edition of the London pharmacopœia, this was ſtyled *Unguentum ſimplex*, the name given by the Edinburgh college to the following

UNGUENTUM SIMPLEX.

Edin.

Simple ointment.

Take of
Olive oil, five parts;
White wax, two parts.

Both theſe ointments may be uſed for ſoftening the ſkin and healing chaps. The laſt is, however, preferable, as being more ſteadily of one uniform conſiſtence. For the ſame reaſon it is alſo to be preferred as the baſis of other more compounded ointments.

UNGUENTUM ex AERUGINE.

Edin.

Ointment of verdegris.

Take of
Baſilicon ointment, fifteen parts;
Verdegris, one part.

This ointment is uſed for cleanſing ſores, and keeping down fungous fleſh. Where ulcers continue to run from a weakneſs in the veſſels of the part, the tonic powers of copper promiſe conſiderable advantage.

It is alſo frequently uſed with advantage in caſes of ophthalmia, depending on ſcrophula, where the palpebræ are principally affected; but when it is to be thus applied, it is in general requiſite that it ſhould be ſomewhat weakened by the addition of a proportion of ſimple ointment or hog's lard. An ointment ſimilar to the above, and celebrated for the cure of ſuch inſtances of ophthalmia, has long been ſold under the name of *Smellom's eye-ſalve.*

UNGUENTUM CALCIS HYDRARGYRI ALBÆ.

Lond.

Ointment of the white calx of quickſilver.

Take of
The white calx of quickſilver, one dram;
Ointment of hog's lard, one ounce and a half.

Mix, and make an ointment.

This is a very elegant mercurial ointment, and frequently made uſe of in the cure of obſtinate cutaneous affections. It is an improvement of the Unguentum e mercurio precipitate of the laſt London pharmacopœia; the precipitated ſulphur being thrown out of the compoſition, and the quantity of mercury increaſed.

UNGUENTUM e CALCE ZINCI.

Edin.

Ointment of calx of zinc.

Take of
Simple liniment, ſix parts;
Calx of zinc, one part.

This ointment is chiefly uſed in affections of the eye, particularly in thoſe caſes where redneſs ariſes rather from relaxation than from active inflammation.

UN-

UNGUENTUM CANTHARIDIS.

Lond.

Ointment of the Spanish flies.

Take of
- Spanish flies, powdered, two ounces;
- Distilled water, eight ounces;
- Ointment of yellow resin, eight ounces.

Boil the water with the Spanish flies to one half, and strain. To the strained liquor add the ointment of yellow resin. Evaporate this mixture in a water-bath, saturated with sea-salt, to the thickness of an ointment.

UNGUENTUM EPISPASTICUM ex INFUSO CANTHARIDUM.

Edin.

Epispastic ointment from infusion of cantharides.

Take of
- Cantharides,
- White resin,
- Yellow wax, each one ounce;
- Hogs-lard,
- Venice turpentine, each two ounces;
- Boiling water, four ounces.

Infuse the cantharides in the water, in a close vessel, for a night; then strongly press out and strain the liquor, and boil it with the lard till the watery moisture be consumed; then add the resin, wax, and turpentine, and make the whole into an ointment.

These ointments, containing the soluble parts of the cantharides, uniformly blended with the other ingredients, are more commodious, and in general occasion less pain, though not less effectual with its intention than the compositions with the fly in substance. This, however, does not uniformly hold; and accordingly the Edinburgh college, with propriety, still retain an ointment containing the flies in substance.

UNGUENTUM EPISPASTICUM e PULVERE CANTHARIDUM.

Edinb.

Epispastic ointment, from powder of cantharides.

Take of
- Basilicon ointment, seven parts;
- Powdered cantharides, one part.

This ointment is employed in the dressings for blisters, intended to be made *perpetual* as they are called, or to be kept running for a considerable time, which in many chronic, and some acute cases, is of great service. Particular care should be taken, that the cantharides employed in these compositions be reduced into very subtile powder, and that the mixtures be made as equal and uniform as possible. But with these precautions, there are some particular habits in which this ointment operates with even less pain than the former, while at the same time it is generally more effectual.

UNGUENTUM CERÆ.

Lond.

Wax-ointment.

Take of
- White wax, four ounces;
- Spermaceti, three ounces;
- Olive-oil, one pint.

Stir them, after being melted with a slow fire, constantly and briskly, until cold.

This ointment had formerly the title of *Unguentum album* in the London pharmacopœia. It differs very little from the Unguentum simplex of the Edinburgh pharmacopœia, and in nothing from the Unguentum spermatis cæti of the London pharmacopœia, excepting that in this ointment the proportion of

of ſpermaceti is ſomewhat leſs. It is an uſeful cooling ointment for excoriations and other frettings of the ſkin.

UNGUENTUM CERUSSÆ ACETATÆ.

Lond.

Ointment of acetated ceruſſe.

Take of
- Acetated ceruſſe, two drams;
- White wax, two ounces;
- Olive-oil, half a pint.

Rub the acetated ceruſſe, previouſly powdered, with ſome part of the olive-oil; then add it to the wax, melted with the remaining oil. Stir the mixture until it be cold.

UNGUENT. SATURNINUM.

Edin.

Saturnine ointment.

Take of
- Simple ointment, twenty parts;
- Sugar of lead, one part.

Both theſe ointments are uſeful coolers and deſiccatives; much ſuperior both in elegance and efficacy to the *nutritum* or *tripharmacum*, at one time very much celebrated.

UNGUENTUM e CERUSSA, vulgo ALBUM.

Edin.

Ointment of ceruſſe, commonly called *White ointment.*

Take of
- Simple ointment, five parts;
- Ceruſſe, one part.

This is an uſeful, cooling, emollient ointment, of great ſervice in excoriations and other ſillmar frettings of the ſkin. The ceruſſe has been objected to by ſome, on a ſuſpicion that it might produce ſome ill effect, when applied, as theſe unguents frequently are, to the tender bodies of children. Though there does not ſeem to be much danger in this external uſe of ceruſſe, the addition of it is the leſs neceſſary here, as we have another ointment containing a more active preparation of the ſame metal, the *unguentum ſaturninum* juſt mentioned; which may be occaſionally mixed with this, or employed by itſelf, in caſes where ſaturnine applications are wanted.

UNGUENTUM ELEMI.

Lond.

Ointment of elemi.

Take of
- Elemi, one pound;
- Turpentine, ten ounces;
- Mutton-ſuet, prepared, two pounds;
- Olive-oil, two ounces.

Melt the elemi with the ſuet; and having removed it from the fire, mix it immediately with the turpentine and oil, after which ſtrain the mixture.

This ointment, perhaps beſt known by the name of *Linimentum arcei*, has long been in uſe for digeſting, cleanſing, and incarnating; and for theſe purpoſes is preferred by ſome to all the other compoſitions of this kind.

Theſe, however, are much more proceſſes of nature than of art; and it is much to be doubted, whether it has in reality any influence.

UNGUENTUM HELLEBORI ALBI.

Lond.

Ointment of white hellebore.

Take of
- The root of white hellebore, powdered, one ounce;
- Ointment of hog's lard, four ounces;
- Eſſence of lemons, half a ſcruple.

Mix them, and make an ointment.

White

White hellebore externally applied has long been celebrated in the cure of cutaneous affections; and this is perhaps one of the best formulæ under which it can be applied, the hogs-lard ointment serving as an excellent basis for it, while the essence of lemons communicates to it a very agreeable smell.

UNGUENTUM HYDRARGYRI FORTIUS.

Lond.

Stronger ointment of quicksilver.

Take of
- Purified quicksilver, two pounds;
- Hog's lard, prepared, twenty-three ounces;
- Mutton-suet, prepared, one ounce.

First rub the quicksilver with the suet and a little of the hog's-lard, until the globules disappear; then add what remains of the lard, and make an ointment.

UNGUENTUM HYDRARGYRI MITIUS.

Lond.

Weaker ointment of quicksilver.

Take of
- The stronger ointment of quicksilver, one part;
- Hog's lard, prepared, two parts.

Mix them.

UNGUENTUM ex HYDRARGYRO, sive CÆRULEUM.

Edin.

Quicksilver, or *blue ointment.*

Take of
- Quicksilver,
- Mutton suet, each one part;
- Hog's-lard, three parts.

Rub them carefully in a mortar till the globules entirely disappear.

This ointmentment may also be made with double or treble the quantity of quicksilver.

These ointments are principally employed, not with a view to their topical action, but with the intention of introducing mercury in an active state into the circulating system. And this may be effected by gentle friction on the sound skin of any part, particularly on the inside of the thighs or legs. For this purpose, these simple ointments are much better suited than the more compounded ones with turpentine and the like, formerly employed. For by any acrid substance topical inflammation is apt to be excited, preventing farther friction, and giving much uneasiness. To avoid this, it is necessary, even with the mildest and weakest ointment, somewhat to change the place at which the friction is performed. But by these ointments properly managed, mercury may in most instances be as advantageously introduced, either for eradicating syphilis, or combating other obstinate diseases, as under any form whatever. But to obtain these effects, it is requisite that the ointment should be prepared with very great care; for upon the degree of triture which has been employed, the activity of the mercury must entirely depend. The addition of the mutton-suet, now adopted by both colleges, is an advantage to the ointment, as it prevents it from running into the state of oil, which the hog's lard alone in warm weather, or in a warm chamber, is sometimes apt to do, and which is followed by a separation of parts. We are even inclined to think, that the proportion of suet directed by the London college is too small for this purpose, and indeed seems to be principally intended for more effectual triture of the mercury: But it is much more to be regretted, that in a medicine of such activity, the two colleges should not have directed the same proportion of mercury to the fatty matter. For although both have directed oint-

ointments of different ſtrength, neither the weakeſt nor the ſtrongeſt by no means agree in the proportion of mercury which they contain.

UNGUENTUM HYDRARGYRI NITRATI.

Lond.

Ointment of nitrated quickſilver.

Take of
Purified quickſilver, one ounce;
Nitrous acid, two ounces;
Hog's lard, prepared, one pound.

Diſſolve the quickſilver in the nitrous acid; and, whilſt it is yet hot, mix it with the hog's lard, previouſly melted, and now growing cold.

UNGUENTUM CITRINUM.

Edin.

Yellow ointment.

Take of
Quickſilver, one ounce;
Spirit of nitre, two ounces;
Hog's lard, one pound.

Diſſolve the quickſilver in the ſpirit of nitre, by digeſtion in a ſand-heat; and, whilſt the ſolution is very hot, mix with it the lard, previoſly melted by itſelf, and juſt beginning to grow ſtiff. Stir them briſkly together, in a marble mortar, ſo as to form the whole into an ointment.

These ointments differ only in name; and that employed by the London college is certainly the preferable appellation: For here the quickſilver, previous to its union with the lard, is brought to a ſaline ſtate by means of the nitrous acid. And although its activity be very conſiderably moderated by the animal fat with which it is afterwards united, yet it ſtill affords us a very active ointment; and as ſuch it is frequently employed with ſucceſs in cutaneous and other topical affections. In this condition, however, the mercury does not ſo readily enter the ſyſtem, as in the preceding form. Hence it may even be employed in ſome caſes with more freedom; but in other inſtances it is apt to excoriate and inflame parts. On this account a reduction of its ſtrength is ſometimes requiſite; and it is often alſo neceſſary, from the hard conſiſtence which it acquires, in conſequence of the action of acid on the lard.

UNGUENTUM PICIS.

Lond.

Tar ointment.

Take of
Tar,
Mutton-ſuet, prepared, of each half a pound,

Melt them together, and ſtrain.

UNGUENTUM e PICE.

Edin.

Ointment of tar.

Take of
Tar, five parts;
Yellow wax, two parts.

These compoſitions, though the one be formed into an ointment by means of ſuet, the other by wax, cannot be conſidered as differing eſſentially from each other. As far as they have any peculiar activity, this entirely depends on the tar. And this article, from the empyreumatic oil and ſaline matters which it contains, is undoubtedly, as well as turpentine, of ſome activity. Accordingly, it has been ſucceſsfully employed againſt ſome cutaneous affections, particularly thoſe of domeſtic animals. At one time, as well as the black baſilicon, it was a good deal employed as a dreſſing even for recent wounds. But altho' it ſtill retains a place in our pharmacopœias, it is at preſent little uſed with any intention.

UN-

UNGUENTUM RESINÆ FLAVÆ.

Lond.

Ointment of yellow resin.

Take of
Yellow resin,
Yellow wax, of each one pound;
Olive oil, one pint.

Melt the resin and wax with a slow fire; then add the oil, and strain the mixture whilst hot.

UNGUENTUM BASILICUM FLAVUM.

Edin.

Yellow basilicon ointment.

Take of
Hog's lard, eight parts;
White resin, five parts;
Yellow wax, two parts.

These are commonly employed in dressings, for digesting, cleansing, and incarnating wounds and ulcers. They differ very little, if at all, in their effects, from the *Linimentum arcæi*, or unguentum elemi, as it is now more properly styled. But it is probable that no great effect is to be attributed to either. For there can be no doubt that the suppurative and adhesive inflammations are processes of nature, which will occur without the aid of any ointment.

UNGUENTUM SAMBUCI.

Lond.

Elder ointment.

Take of
Elder-flowers, four pounds.
Mutton-suet, prepared, three pounds;
Olive-oil, one pint.

Boil the flowers in the suet and oil, first melted together, till they be almost crisp; then strain with expression.

This ointment does not seem superior to some others, which are much neater, and preparable at less expence. It can scarcely be supposed to receive any considerable virtue from the ingredient which it takes its name from. And, accordingly, it is not without propriety that it is rejected from the pharmacopœia of the Edinburgh college.

UNGUENTUM SPERMATIS CETI.

Lond.

Ointment of spermaceti.

Take of
Spermaceti, six drams;
White wax, two drams;
Olive-oil, three ounces.

Melt them together over a slow fire, stirring them constantly and briskly until they be cold.

This had formerly the name of *Linimentum album*, and it is perhaps only in consistence that it can be considered as differing from the unguentum simplex, already mentioned, or the ceratum simplex, afterwards to be taken notice of.

UNGUENTUM SULPHURIS.

Lond.

Sulphur ointment.

Take of
Ointment of hog's lard, half a pound;
Flowers of sulphur, four ounces.

Mix them, and make an ointment.

UNGUENTUM e SULPHURE, five ANTIPSORICUM:

Edin.

Ointment of sulphur, or *antipsoric ointment.*

Take of
Hog's lard, four parts;
Sulphur, beat into a very fine powder, one part.

To each pound of this ointment add,
Essence of lemons, or
Oil of lavender, half a dram.

Sul-

Sulphur is a certain remedy for the itch, more safe than mercury. Sir John Pringle observes, that unless a mercurial unction was to touch every part of the skin, there can be no certainty of success; whereas, from a sulphureous one, a cure may be obtained by only partial unction, the animalcula, which are supposed to occasion this disorder, being, like other insects, killed by the sulphureous steams which exhale by the heat of the body. As to the internal use of mercury, which some have accounted a specific, there are several instances of men undergoing a complete salivation for the cure of the lues venerea, without being freed from the itch: but there are also a multitude of instances of men undergoing a long course of sulphur without effect, and who were afterwards readily cured by mercury.

The quantity of ointment, above directed, serves for four unctions: the patient is to be rubbed every night; but to prevent any disorder that might arise from stopping too many pores at once, a fourth part of the body is to be rubbed at one time. Though the itch may thus be cured by one pot of ointment, it will be proper to renew the application, and to touch the parts most affected, for a few nights longer, till a second quantity also be exhausted; and in the worst cases, to subjoin the internal use of sulphur, not with a view to purify the blood, but to diffuse the steams more certainly thro' the skin; there being reason to believe, that the animalcula may sometimes lie too deep to be thoroughly destroyed by external applications.

UNGUENTUM TUTIÆ.

Lond.

Tutty ointment.

Take of

Prepared tutty, one dram;

Ointment of spermaceti, what is sufficient.

Mix them so as to make a soft ointment.

UNGUENTUM e TUTIA.

Edinb.

Ointment of tutty.

Take of

Simple liniment, five parts;

Prepared tutty, one part.

These ointments have long been celebrated, and are still much employed against affections of the eyes. But they cannot, we imagine, be esteemed elegant.

Both calamine and tutty act only by means of the zinc they contain, and calamine appears to contain the most of the two, and likewise to be the least variable in its contents. But the pure flowers prepared from zinc itself are doubtless preferable to either. Hence the ointment of tutty may be considered as inferior both to the Unguentum e lapide calaminari, and to the Unguentum e calce zinci, which have also a place in our pharmacopœia.

LINIMENTUM SIMPLEX.

Edinb.

Simple liniment.

Take of

Olive oil, four parts;

White wax, one part.

This consists of the same articles which form the Unguentum simplex of the Edinburgh pharmacopœia, but merely in a different proportion, so as to give a thinner consistence; and where a thin consistence is requisite, this may be considered as a very elegant and useful application.

LINIMENTUM AMMONIÆ.

Lond.

Liniment of ammonia.

Take

Take of
Water of ammonia, half an ounce;
Olive-oil, one ounce and an half.
Shake them together in a phial, till they are mixed.

This has long been known in the ſhops under the title of Linimentum volatile, but is now more properly denominated from the principal active article, which enters its compoſition. It has been much employed in practice, particularly on the recommendation of Sir John Pringle in his Obſervations on the Diſeaſes of the Army. He obſerves, that in the inflammatory quinſey, or ſtrangulation of the fauces, a piece of flannel, moiſtened with this mixture, applied to the throat, and renewed every four or five hours, is one of the moſt efficacious remedies. By means of this warm ſtimulating application, the neck, and ſometimes the whole body, is put into a ſweat, which, after bleeding, either carries off, or leſſens the inflammation. Where the ſkin cannot bear the acrimony of this mixture, a larger proportion of oil may be uſed.

LINIMENTUM AMMONIÆ FORTIUS.

Lond.

Stronger liniment of ammonia.

Take of
Water of pure ammonia, one ounce;
Olive-oil, two ounces.
Shake them together in a phial.

This article differs from the foregoing in ſtrength only. This ariſes both from its being formed of a more acrid ſpirit, and from its containing that ſpirit in a larger proportion to the oil. It is uſed to ſupply the place of the Epithema et Emplaſtrum volatile of our former pharmacopœias, and is a very acrid ſtimulating compoſition. When largely applied, it often excites inflammation, and even veſication, on tender ſkin. It is often, however, ſucceſsfully employed againſt obſtinate rheumatic and iſchiadic pains.

LINIMENTUM CAMPHORÆ.

Lond.

Camphor liniment.

Take of
Camphor, two ounces;
Water of ammonia, ſix ounces;
Simple ſpirit of lavender, ſixteen ounces.
Mix the water of ammonia with the ſpirit, and diſtil from a glaſs retort, with a ſlow fire, ſixteen ounces. Then diſſolve the camphor in the diſtilled liquor.

This formula, which has now for the firſt time a place in the London pharmacopœia, approaches to the volatile eſſence of that celebrated empyric the late Dr Ward: But the above is a more elegant and active formula than either of the receipts publiſhed by Mr Page, from Dr Ward's book of receipts; and there is no reaſon to doubt that it will be equally effectual in removing ſome local pains, ſuch as particular kinds of headach, in conſequence of external application.

LINIMENTUM SAPONIS.

Lond.

Soap-liniment.

Take of
Soap, three ounces;
Camphor, one ounce;
Spirit of roſemary, one pint.
Digeſt the ſoap in the ſpirit of roſemary until it be diſſolved, and add to it the camphor.

This is the linimentum saponaceum of the former edition of the London pharmacopœia, without any alteration; and it differs very little from the balsamum saponaceum of the Edinburgh college already mentioned. Though a less active and penetrating application than the preceding, it is perhaps no less useful; and it is often successfully employed for external purposes against rheumatic pains, sprains, bruises, and similar complaints.

UNGUENTUM ÆGYPTIACUM.

Gen.

Egyptian-ointment.

Take of
- Honey, one pound;
- Strong vinegar, half a pound;
- Verdegris, powdered, five ounces.

Let the ingredients be boiled together till the verdegris be dissolved, so that the ointment may have a due degree of thickness and a purple colour.

This preparation had formerly a place in our pharmacopœias under the title of *Mel Ægyptiacum:* and a similar preparation has now a place under the title of *Oxymel æruginis.* But in that formula the proportion is much less than in the above. It may justly be considered as a very powerful application for cleansing and deterging foul ulcers, as well as for keeping down fungous flesh. But these purposes may in general be answered by articles less acrid and exciting less pain. Besides this, the above preparation is also liable to considerable uncertainty with respect to strength; for a large proportion of the verdegris will in a short time subside to the bottom: thus, what is in the top of the pot is much less active than that in the bottom.

UNGUENTUM ANODYNUM.

Gen.

Anodyne ointment.

Take of
- Olive-oil, ten drams;
- Yellow wax, half an ounce;
- Crude opium, one dram.

Mix them according to art, so as to form an ointment.

Opium thus externally applied, will in some degree be productive of the same effect as when used under the form of the anodyne balsam. In that state it produces its effects more immediately; but under the present form its effects are more permanent. Besides this, the present ointment furnishes us with an useful dressing for sores attended with severe pain; to which opium when dissolved in spirit cannot be applied. Hence the present, or some analogous formula, is well intitled to a place in our pharmacopœias.

UNGUENTUM ad CANCRUM EXULCERATUM.

Brun.

Ointment for an ulcerated cancer.

Take of
- The recently expressed juice of the ricinus, one pound.

Let it be exposed to the rays of the sun in a leaden vessel, till it acquire the consistence of an oil; then to one pound of this inspissated juice, add
- Calcined lead,
- White precipitate mercury, each one pound.

Let them be properly mixed.

This acrid application must possess a considerable degree of corrosive power. And in some cases of cancer, by the proper application of corrosives, much benefit may be done:

done: But where the diſeaſe has made any conſiderable progreſs, theſe will in general have the effect rather of haſtening its progreſs than of removing it; particularly if there be a large indolent tumour below the ulcer.

UNGUENTUM DIGESTIVUM.

Roſs.

Digeſtive ointment.

Take of
- Venice turpentine, one pound;
- The yolks of eight eggs.

Mix them together, according to art.

This warm ſtimulating application is well ſuited to promote the ſuppurative inflammation, and may be advantageouſly had recourſe to, where it is neceſſary to encourage a large diſcharge of pus.

UNGUENTUM HÆMORRHOIDALE.

Hæmorrhoidal ointment.

Take of
- Saturnine ointment, ſix drams;
- Oil of Hyoſciamus, obtained by boiling, two drams;
- Camphor, powdered, two ſcruples;
- Saffron, one ſcruple.

Mix them into an ointment.

The name affixed to this ointment expreſſes the purpoſe for which it is applied. From the articles of which it conſiſts, it may be concluded, that it poſſeſſes a gently emollient and anodyne power; and may therefore afford conſiderable relief, where much pain ariſes from external hæmorrhoidal tumours.

UNGUENTUM NERVINUM.

Suec.

Nervine ointment.

Take of
- Prepared mutton-ſuet, eight ounces.

After it is melted and removed from the fire, add to it
- Oil of bays, one pound;
- Ætherial oil of turpentine, one ounce;
- Rectified oil of amber, half an ounce.

Let them be mixt and rubbed together till they form an ointment.

This is an improved mode of forming an ointment which had formerly a place in our pharmacopœias under the ſame title. And it furniſhes a warm ſtimulating nervine application, which may be in ſome degree inſtrumental in reſtoring ſenſe and motion to paralytic limbs. And while it at leaſt ſerves to lead to the careful uſe of friction, it may ſomewhat increaſe the benefit which would reſult from it.

UNGUENTUM de NICOTIANA.

Dan.

Ointment of tobacco.

Take of
- The leaves of tobacco, cut down, three pounds;
- Juice of tobacco, nine ounces;
- Hog's lard, a pound and a half.

Let them be macerated for the ſpace of a night, and then boiled over a gentle fire till the humidity be conſumed. Having ſtrained the fluid obtained by expreſſion, add to it
- Reſin, three ounces;
- Yellow wax, half an ounce;
- Powder of the root of birthwort, three ounces.

Mix them into an ointment.

There can be no doubt that tobacco externally applied has very

powerful effects upon the human body; and that not merely from its topical action, but sometimes even as affecting the system in general. From this last circumstance it requires to be used with great caution. It has, however, been found, under proper management, to afford an effectual cure in obstinate cutaneous affections. But were it to be used with this intention, we would have a more elegant formula, by merely impregnating either hog's-lard, or the unguentum simplex, with the active qualities extracted by the aid of heat, from the leaves of the prepared tobacco in the state in which it is usually brought to us from America, than by having recourse to the recent juice, and to the aristolochia and other additions here directed.

UNGUENTUM e STYRACE.

Suec.

Ointment of storax.

Take of
  Olive-oil, a pound and a half;
  White resin;
  Gum elemi,
  Yellow wax, each seven ounces.
After they are melted together and strained, add
  Liquid storax, seven ounces.
Mix them together, and agitate the mixture till it concretes into an uniform ointment.

An ointment supposed to derive its activity from the storax, altho' it have no place in our pharmacopœias, is received into most of the foreign ones. And it has been much celebrated not only as a strengthening application to weakly children, but even for the removal of affections of the bones, as in cases of rachitis and the like. It is, however, very doubtful how far these properties depend upon the storax. If it have really any good effect, it is probable that this is more the consequence of the friction merely, than of any of the articles which enter the composition of the ointment. But there is reason to believe that the virtues attributed to this ointment are more imaginary than real.

UNGUENTUM SUPPURANS.

Suec.

Suppurative ointment.

Take of
  Yellow wax,
  Resin, each half a pound.
To these melted, add
  Onion roasted under the ashes;
  Honey, each two pounds and a half;
  Black soap, half a pound.
Let them be gently boiled together till all the moisture be consumed, then strain the liquor, expressing it from the materials, and afterwards agitate it with a wooden pestle that it may unite into one uniform mass.

This ointment is applied with the intention of promoting suppuration. And it has long been supposed, that the onion, especially in its roasted state, has a remarkable influence in this way: but there is reason to think, that the powers attributed to it have been greatly over-rated. And there is even ground to presume that these effects totally depend on heat and moisture. Hence no application is perhaps better suited for promoting suppuration than a poultice of bread and milk, applied of such a degree of warmth as can be borne with ease, and frequently repeated.

CHAP.

CHAP. XXXIII.

CERATA

CERATES.

CERATES are ſubſtances intended for external application, formed of nearly the ſame materials which conſtitute ointments and plaſters. And they differ principally from theſe in being merely of an intermediate conſiſtence between the two. Accordingly, they are ſeldom the ſubject of a ſeparate chapter by themſelves, but are claſſed either with the one or the other. In the Edinburgh pharmacopœia they are claſſed among the ointments: But as the London college have referred them to a ſeparate head, we ſhall here alſo conſider them by themſelves.

CERATUM SIMPLEX.

Edinb.

Simple cerate.

Take of
- Olive oil, ſix parts;
- White wax, three parts;
- Spermaceti, one part.

Unite them according to art.

THIS differs from the ſimple ointment in containing a greater proportion of wax to the oil, and in the addition of the ſpermaceti. But by theſe means it obtains only a more firm conſiſtence, without any eſſential change of properties.

CERATUM CANTHARIDIS.

Lond.

Cerate of cantharides, or *Spaniſh flies.*

Take of
- Cerate of ſpermaceti, ſoftened with heat, ſix drams;
- Spaniſh flies, finely powered, one dram.

Mix them.

UNDER this form cantharides may be made to act to any extent that is requiſite. It may ſupply the place either of the bliſtering plaſter or ointment; and there are caſes in which it is preferable to either. It is particularly more convenient than the Emplaſtrum cantharidum, where the ſkin to which the bliſter is to be applied is previouſly much affected, as in caſes of ſmall pox; and in ſupporting a drain under the form of iſſue, it is leſs apt to ſpread than the ſofter ointment.

CERATUM LAPIDIS CALAMINARIS.

Lond.

Calamine-cerate.

Take of
- Calamine, prepared,
- Yellow wax, of each half a pound;
- Olive-oil, one pint.

Melt the wax with the oil; and, as soon as the mixture begins to thicken, mix with it the calamine, and stir the cerate until it be cold.

CERATUM e LAPIDE CALAMINARI.

Edinb.

Cerate of calamine.

Take of
Simple cerate, five parts;
Calamine prepared, one part.

These compositions are formed upon the cerate which Turner strongly recommends in cutaneous ulcerations and excoriations, and which has been usually distinguished by his name. They appear from experience to be excellent epulotics, and as such are frequently made use of in practice.

CERATUM LITHARGYRI ACETATI.

Lond.

Cerate of acetated litharge.

Take of
Water of acetated litharge, two ounces and an half;
Yellow wax, four ounces;
Olive-oil, nine ounces;
Camphor, half a dram.

Rub the camphor with a little of the oil. Melt the wax with the remaining oil, and as soon as the mixture begins to thicken, pour in by degrees the water of acetated litharge, and stir constantly until it be cold; then mix in the camphor before rubbed with oil.

This application has been rendered famous by the recommendations of Mr Goulard. It is unquestionably in many cases very useful. It cannot, however, be considered as varying essentially from the saturnine ointment, or Unguentum e cerussa acetata, formerly mentioned. It is employed with nearly the same intentions, and differs from it chiefly in consistence.

CERATUM RESINÆ FLAVÆ.

Lond.

Cerate of yellow resin.

Take of
Ointment of yellow resin, half a pound;
Yellow wax, one ounce.

Melt them together, and make a cerate.

This had formerly the name of *Unguentum citrinum.* It is no otherwise different from the yellow basilicum, or Unguentum resinæ flavæ, than being of a stiffer consistence, which renders it for some purposes more commodious.

CERATUM SAPONIS.

Lond.

Soap cerate.

Take of
Soap, eight ounces;
Yellow wax, ten ounces;
Litharge, powdered, one pound;
Olive oil, one pint;
Vinegar, one gallon.

Boil the vinegar with the litharge, over a slow fire, constantly stirring until the mixture unites and thickens; then mix in the other articles, and make a cerate.

This, notwithstanding the name, may rather be considered as another saturnine application than one whose activity depends upon soap. And it may be held as varying in little else but consistence from the Emplastrum lythargyri. It can hardly be thought to differ in its properties from the cerate of acetated litharge just mentioned. For neither the small proportion of camphor which enters the composition

tion of the one, nor the ſoap which gives name to the other, can be conſidered as having much influence.

CERATUM SPERMATIS CETI.

Edin.

Cerate of ſpermaceti.

Take of
Spermaceti, half an ounce;
White wax, two ounces;
Olive-oil, four ounces.
Melt them together, and ſtir until the cerate be cold.

This had formerly the name of *Ceratum album*, and it differs in nothing from the Unguentum ſpermatis ceti, or Linimentum album, as it was formerly called, excepting in conſiſtence, both the wax and the ſpermaceti bearing a greater proportion to the oil.

CERATUM LABIALE.

Roſs.

Lip ſalve.

Take of
Olive-oil, eighteen ounces;
White wax, one pound;
Spermaceti, an ounce and a half;
Oil of rhodium, half a dram.
Form a cerate, tinging it with alkanet, ſo as to give a red colour.

The name affixed to this cerate points out the uſe for which it is intended It is chiefly employed againſt thoſe chops and excoriations of the lips, which are often the conſequence of cold weather; and it is very well ſuited for removing affections of that kind. But excepting in the colour and ſmell which it derives from the alkanet and rhodium, it differs in nothing from the cerate of ſpermaceti, and cannot be conſidered as more effectually anſwering the intention in view.

CEREI MEDICATI.

Suec.

Bougies.

Take of
Yellow wax, melted, one pound;
Spermaceti, three drams;
Vinegar of litharge, two drams.
Mix them, and upon removal from the fire immerſe into the mixture ſlips of linen, of which bougies are to be formed according to the rules of art.
Theſe may alſo be made with double, triple, or quadruple, the quantity of the vinegar.

It is perhaps rather ſurpriſing, that no formula for the preparation of bougies has a place in our pharmacopœias: For there can be no doubt, that although the preparation of them has hitherto been principally truſted to empirics; yet in the hand of the ſkilful practitioner they are of great ſervice in combating obſtinate affections. Although it has been pretended by ſome that their influence is to be aſcribed to certain impregnations; yet it is on better grounds contended, that they act entirely upon mechanical principles. The great object is therefore to obtain the union of a proper degree of firmneſs and flexibility. Theſe qualities the above compoſition poſſeſs; and it does not probably derive any material benefit from being prepared with an additional proportion of the Acetum lithargyrites.

CHAP. XXXIV.

EPITHEMATA.

EPITHEMS.

BY epithems or cataplasms are in general understood those external applications, which are brought to a due consistence or form for being properly applied, not by means of oily or fatty matters, but by water or watery fluids. Of these not a few are had recourse to in actual practice; but they are seldom prepared in the shops of the apothecaries; and in some of the best modern pharmacopœias, no formulæ of this kind are introduced. The London college, however, although they have abridged the number of epithems, still retain a few. And it is not without some advantage that there are fixed forms for the preparation of these.

CATAPLASMA CUMINI.

Lond.

Cataplasm of cummin.

Take of
- Cummin-seed, one pound;
- Bay-berries,
- Dry leaves of water-germander, or scordium,
- Virginian snake-root, of each three ounces;
- Cloves, one ounce.

Rub them all together; and, with the addition of three times the weight of honey, make a cataplasm.

THIS is adopted into the present edition of the London pharmacopœia with very little alteration from the last. It was then intended as a reformation of the THERIACA LONDINENSIS, which for some time past has been scarce otherwise made use of than as a warm cataplasm. In place of the numerous articles which formerly entered that composition, only such of its ingredients are retained as contribute most to this intention: But even the article from which it now derives its name, as well as several others which still enter it, probably contribute very little to any medical properties it may possess.

CATAPLASMA SINAPEOS.

Lond.

Mustard cataplasm.

Take of
- Mustard-seed, powdered,

Crumb

Crumb of bread, of each half a pound;
Vinegar, as much as is ſufficient.
Mix, and make a cataplaſm.

Epithems of this kind are commonly known by the name of *Sinapiſms*. They were formerly not unfrequently prepared in a more complicated ſtate, containing garlic, black-ſoap, and other ſimilar articles; but the above ſimple form will anſwer every purpoſe which they are capable of accompliſhing. They are employed only as ſtimulants: they often inflame the part and raiſe bliſters, but not ſo perfectly as cantharides. They are frequently applied to the ſoles of the feet in the low ſtate of acute diſeaſes, for raiſing the pulſe and relieving the head. The chief advantage they have depends on the ſuddenneſs of their action.

COAGULUM ALUMINIS.

Lond.

Alum-curd.

Take
The white of two eggs;
Shake them with a piece of alum till they be coagulated.

This preparation is taken from Riverius. It is an uſeful aſtringent epithem for ſore, moiſt eyes, and excellently cools and repreſſes thin defluxions. Slighter inflammations of the eyes, occaſioned by duſt, expoſure to the ſun, or other ſimilar cauſes, are generally removed by fomenting them with warm milk and water, and waſhing them with ſolutions of white vitriol. Where the complaint is more violent, this preparation, after the inflammation has yielded a little to bleeding, is one of the beſt external remedies. It is to be ſpread on lint, and applied at bed-time.

A TABLE, *ſhowing in what Proportions* MERCURY *or* OPIUM *enter different Formulæ.*

PULVIS e creta compoſitus cum opio. Lond. In about forty-three grains, one grain of opium is contained.

Pulvis ipecacuanhæ compoſitus. Lond. In ten grains, one grain of opium.

Pulvis ſudorificus. Ed. In eight grains, one grain of opium.

Pulvis opiatus. Lond. In ten grains, one grain of opium.

Pulvis e ſcammonio cum calomelane. Lond. In four grains, one grain of calomel.

Pilulæ ex opio. Lond. In five grains, one grain of opium.

Pilulæ thebaicæ. Ed. In ten grains, one grain of opium.

Pilulæ ex hydrargyro. Lond. In two grains and a half, one grain of mercury.

Pilulæ ex hydrargyro. Ed. In four grains, one grain of mercury.

Pilulæ plummeri. Ed. In three grains and a half, one grain of calomel.

Confectio opiata. Lond. In thirty-ſix grains, one grain of opium.

Electuarium Japonicum. Ed. In about one hundred and ninety-three grains, one grain of opium.

Electuarium thebaicum. Ed. In ſeventy-three grains, one grain of opium.

Trochiſci bechici cum opio. Ed. In fifty-five grains, one grain of opium.

Theſe trochiſci are not unfrequently ordered *cum duplice opio*, and under this form are kept in many ſhops.

Emplaſtrum ammoniaci cum hydrargyro. Lond. In five ounces, one ounce of mercury.

Emplaſtrum lithargyri cum hydrargyro. Lond. In five ounces, one ounce of mercury.

Emplaſtrum e hydrargyro. Ed. In about three ounces and a half, one ounce of mercury.

Unguentum hydrargyri fortius. Lond. In two drams, one dram of mercury.

Unguentum hydrargyri mitius. Lond. In five drams, one dram of mercury.

Unguentum ex hydrargyro. Ed. In five drams, one dram of mercury.

Unguentum hydrargyri nitrati. Lond. In one dram, twelve grains of nitrated quickſilver.

Unguentum citrinum. Ed. In one dram, twelve grains of nitrated quickſilver.

Unguentum calcis hydrargyri albæ. Lond. In one dram, four grains and an half of the calx hydrargyri alba.

Tinctura opii, Lond. is made with opium, in the proportion of one grain to about eleven of the menſtruum.

Tinctura thebaica. Ed. is made with opium, in the proportion of one grain to about eleven and a half of the menſtruum.

Tinctura opii camphorata, Lond. is made with opium, in the proportion of one grain to about one hundred of the menſtruum.

Elixir paregoricum, Ed. is made with opium, in the proportion of one grain to ſixty-four of the menſtruum.

Balſamum anodynum, Ed. is made with opium, in the proportion of one grain to about twenty-five of the menſtruum.

TABLE

TABLE *of* NAMES *changed in the* LONDON *and* EDINBURGH PHARMACOPOEIAS.

Names in former Pharmacopœias.	*New Names.*
ACETUM ſcilliticum.	Acetum ſcillæ. Lond.
Æthiops mineralis.	Hydrargyrus cum ſulphure. Lond.
Aqua aluminoſa Bateana.	Aqua aluminis compoſita. Lond.
calcis ſimplex.	calcis. Lond.
cinnamomi ſimplex.	cinnamomi. Lond.
——— -ſpirituoſa.	Spiritus cinnamomi. Lond.
hordeata.	Decoctum hordei. Lond.
juniperi compoſita.	Spiritus juniperi compoſitus. Lon.
menthæ piperitidis ſimplex.	Aqua menthæ piperitidis. Lond.
——— ſpirituoſa.	Spiritus menthæ piperitidis. Lon.
vulgaris ſimplex.	Aqua menthæ ſativæ. Lond.
——— ſpirituoſa.	Spiritus menthæ ſativæ. Lond.
nucis moſchatæ.	nucis moſchatæ. Lond.
piperis Jamaicenſis.	Aqua pimento. Lond.
pulegii ſimplex.	pulegii. Lond.
pulegii ſpirituoſa.	Spiritus pulegii. Lond.
raphani compoſita.	raphani compoſitus. Lon.
roſarum damaſcenarum.	Aqua roſæ. Lond.
ſapphirina.	cupri ammoniati. Lond.
ſeminum anethi.	anethi. Lond.
———aniſi compoſita.	Spiritus aniſi compoſitus. Lond.
———carui.	carui. Lond.
Aqua vitriolica camphorata.	Aqua zinci vitriolati cum camphora. Lond.
Argenti vivi purificatio.	Hydrargyri purificatio. Lond.
Axungiæ porcinæ curatio.	Adipis ſuillæ præparatio. Lond.
B.	
Balſamum ſulphuris barbadenſe.	Petroleum ſulphuratum. Lond.
——— ſimplex.	Oleum ſulphuratum. Lond.
traumaticum.	Tinctura benzoes compoſita. Lon.
anodynum.	Linimentum anodynum. Ed.
ſaponaceum.	Linimentum ſaponaceum. Ed.
Butyrum antimonii.	Cauſticum antimoniale. Ed.

Calx

Names in former Pharmacopœias.	*New Names.*
C.	
Calx antimonii.	Antimonium calcinatum. Lond.
Caufticum antimoniale.	muriatum. Lond.
commune fortius.	Calx cum kali puro. Lond.
lunare.	Argentum nitratum, Lond. / Sal argenti, Ed.
Ceratum album.	Ceratum ſpermatis ceti. Lond.
citrinum.	refinæ flavæ. Lond.
epuloticum.	lapidis calaminaris. Lond.
Chalybis rubigo præparata.	Ferri rubigo. Lond.
Cinnabaris factitia.	Hydrargyrus ſulphuratus ruber. L.
Confectio cardiaca.	Confectio aromatica, Lond. / Electuarium cardiacum, Ed.
Confectio Japonica.	Electuarium Japonicum. Ed.
Cornu cervi calcinatio.	Cornu cervi uſtio. Lond.
Crocus metallorum.	Crocus antimonii. Ed.
D.	
Decoctum album.	Decoctum cornu cervi. Lond.
commune pro clyſtere.	pro enemate. Lond.
pectorale.	hordei compoſitum. L.
E.	
Electarium lentivum.	Electuarium c ſenna. Lond.
Elixir aloes.	Tinctura aloes compoſita. Lond.
myrrhæ compoſitum.	ſabinæ compoſita. Lond.
paregoricum.	opii camphorata. Lond.
proprietatis.	Elixir aloes. Ed.
ſacrum.	ex aloe et rheo. Ed.
ſalutis.	Tinctura ſennæ compoſita. Ed.
Emplaſtrum ex ammoniaco cum mercurio.	Emplaſtrum ammoniaci cum hydrargyro. Lond.
antihyſtericum.	fœtidum. Ed.
attrahens.	ceræ. Lond.
cephalicum.	picis burgundicæ. Lon.
commune.	lithargyri. Lond.
— adheſivum.	— cum refina. Lond.
— cum gummi.	— cum gummi. Lon.
— cum mercurio.	— cum hydrargyro. L.
e cymino.	cumini. Lond.
roborans.	thuris. Lond.
e ſapone.	ſaponis. Lond.
ſtomachicum.	ladani. Lond.
veſicatorium.	cantharidis. Lond.

Emulſio

Names in former Pharmacopœias.	*New Names.*
Emulſio communis.	Lac amygdalæ. Lond.
Ens veneris.	Flores martiales. Ed.
Extracticum catharticum.	Extractum e colocynthide compoſitum. Lond.
thebaicum.	Opium purificatum. Lond.
F.	
Ferri rubigo.	Ferri limatura præparata. Ed.
Flores benzoini.	Flores benzoes. Lond.
martiales.	Ferrum ammoniacale. Lond.
zinci.	Calx zinci. Lond.
Fotus communis.	Decoctum pro fomento. Lond.
H.	
Hiera picra.	Pulvis aloeticus. Lond.
I.	
Infuſum amarum ſimplex.	Infuſum gentianæ compoſitum. L.
ſennæ commune.	ſennæ tartariſatum. Lond.
Julepum e camphora.	Miſtura camphorata. Lond.
e creta.	cretacea. Lond.
e moſcho.	moſchata. Lond.
L.	
Laudanum liquidum.	Tinctura thebaica. Ed.
Linimentum album.	Unguentum ſpermatis ceti. Lond.
ſaponaceum.	Linimentum ſaponis. Lond.
volatile.	ammoniæ. Lond.
Lixivium ſaponarium.	Aqua kali puri. Lond.
tartari.	kali. Lond.
M.	
Mel Ægyptiacum.	Oxymel æruginis. Lond.
roſaceum.	Mel roſæ. Lond.
Mercurius calcinatus.	Hydrargyrus calcinatus. Lond.
corroſivus ſublimatus.	muriatus. Lond.
——— ruber.	nitratus ruber. Lond.
dulcis ſublimatus.	Calomelas. Lond.
emeticus flavus.	Hydrargyrus vitriolatus. Lond.
præcipitatus albus.	Calx hydrargyri alba. Lond.
——— ruber.	Mercurius corroſivus ruber. Edin.

Nitrum

Names in former Pharmacopœias.	*New Names.*
N.	
Nitrum vitriolatum.	Kali vitriolatum. Lond.
O.	
Oleum animale.	Oleum e corubus rectificatum. Ed.
petrolei barbadensis.	petrolei. Lond.
terebinthinæ æthereum.	terebinthinæ rectificatum. L.
Opium colatum.	Opium purificatum. Lond.
Oxymel scilliticum.	Oxymel scillæ. Lond.
P.	
Philonium Londinense.	Confectio opiata. Lond.
Pilulæ aromaticæ.	Pulvis aloeticus cum guaiaco. Lon.
cocciæ.	Pilulæ ex colocynthide cum aloe. E.
mercuriales.	ex hydrargyro. Edin.
pacificæ.	thebaicæ. Edin.
rufi.	ex aloe cum myrrha. Lond.
Pulvis e bolo compositus.	Pulvis e creta compositus. Lond.
——— cum opio.	——— cum opio. Lond.
cephalicus.	sternutatorius. Edin.
Pulvis e cerussa compositus.	Pulvis e cerussa. Lond.
Doveri.	sudorificus. Edin.
sternutatorius.	asari compositus. Lond.
R.	
Rob baccarum sambuci.	Succus baccæ sambuci spissatus. Lond. Ed.
S.	
Saccharum saturni.	Cerussa acetata, Lond. / Sal plumbi, Edin.
Sal absinthii.	Kali. Lond.
ammoniacus volatilis.	Alcali volatile ex sale ammoniaco. Edin.
catharticus glauberi.	Natron vitriolatum, Lond. / Soda vitriolata, Edin.
diureticus.	Kali acetatum. Lond.
martis.	Ferrum vitriolatum
rupellensis.	Soda tartarizata. Edin.
tartari.	Kali. Lond.
vitrioli.	Zincum vitriolatum. Lond.
volatilis salis ammoniaci.	Ammonia. Lond.
Species aromaticæ.	Pulvis aromaticus. Lond.
Spiritus cornu cervi.	Liquor volatilis cornu cervi. Lond.

Spiritus

Names in former Pharmacopœias.	*New Names.*
Spiritus lavendulæ compositus.	Tinctura lavendulæ. Lond.
——— simplex.	Spiritus lavendulæ. Lond.
nitri dulcis.	{ Spiritus ætheris nitrosi. Lond. { Acidum nitri vinosum. Edin.
——— glauberi.	Acidum nitrosum Lond. Edin.
salis ammoniaci.	Aqua ammoniæ. Lond.
salis ammoniaci cum calce vivo.	Alkali volatile causticum. Edin.
salis ammoniaci dulcis.	Spiritus ammoniæ. Lond.
salis marini glauberi.	Acidum muriaticum. Lond.
Vinosus camphoratis.	Spiritus camphoratus. Lond.
vitrioli dulcis.	{ Spiritus ætheris vitriolici, Lond. { Acidum vitriolicum vinosum, Ed.
——— tenuis.	{ Acidum vitriolicum dilutum, L. { Acidum vitriolicum tenue, Ed.
volatilis aromaticus.	Spiritus ammoniæ compositus. L.
——— fœtidus.	——— fœtidus. Lond.
Succi scorbutici.	Succus cochleariæ compositus. Lon.
Sulphur auratum antimonii.	Sulphur antimonii præcipitatum. E.
Syrupus ex althæa.	Syrupus altheæ. Lond.
e corticibus aurantiorum.	corticis aurantii. Lond.
balsamicus.	tolutanus. Lond.
e meconio.	papaveris albi. Lond.
rosarum solutivus.	rosæ. Lond.

T.

Tabellæ cardialgicæ.	Trochisci e creta. Lond.
Tartarum emeticum.	{ Antimonium tartarisatum. Lon. { Tartarus antimonialis. Ed.
regeneratum.	Alkali fixum vegetabile acetatum. Edin.
solubile.	{ Kali tartarisatum. Lond. { Alkali fixum vegetabile tartarisatum. Edin.
vitriolatum.	{ Kali vitriolatum. Lond. { Alkali fixum vegetabile vitriolatum, Ed.
Tinctura amara.	Tinctura gentianæ composita. L.
antiphthisica.	saturnina. Edin.
aromatica.	cinnamomi composita. L.
fœtida.	asæ fœtidæ. Lond.
guaiacina volatilis.	guaiaci. Lond.
ipecacuanhæ.	Vinum ipecacuanhæ. Edin.
japonica.	Tinctura catechu Lond.
martis in spiritu salis.	ferri muriati. Lond.
melampodii.	Tinctura hellebori nigri. Lond.
rhabarbari spirituosa.	rhabarbari. Lond.
——— vinosa.	Vinum rhabarbari. Lond.

Tinctura

Names in former Pharmacopœias.	*New Names.*
Tinctura rosarum.	Infusum rosæ, Lond. rosarum, Edin.
sacra.	Vinum aloes, Lond. Vinum aloeticum, Edin.
stomachica.	Tinctura cardamomi composita. L.
Trochisci bechici albi.	Trochisci amyli. Lond.
——— nigri.	glycyrrhizæ. Lond.
Turpethum minerale.	Mercurius flavus. Edin.

V. U.

Vinum antimoniale.	Vinum antimonii. Lond.
chalybeatum.	ferri. Lond.
Unguentum album.	Unguentum ceræ. Lond.
album.	e ceruſſa. Edin.
antipsoricum.	e sulphure. Edin.
basilicum flavum.	resinæ flavæ. Lond.
cæruleum.	ex hydrargyro. Edin.
——— fortius.	hydrargyri fortius. L.
——— mitius.	——— mitius. Lon.
e mercurio præcipitato.	calcis hydrargyri albæ. Lond.
saturninum.	ceruſſæ acetatæ. Lond.
simplex.	adipis suillæ. Lond.
ad vesicatoria.	cantharidis. Lond.

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FINIS.

April
19th

John Brooke
His Book
1789

2 oz of Prepared Chalk
2 oz of Pomgrannat Shell po
½ oz of Extract of Logwood
3 oz of Ginger in grewell

To Stop A Diarrhae

DISTORTION

SOME TIGHT
GUTTERS